

Home

An August Specialist Publication

Computing WEEKLY

No. 49
Feb 14-20, 1984

40p

Britain's leading
weekly magazine
for software
reviewers

Two pages of
Commodore 64
software
reviews, PLUS:
BBC, Spectrum,
Texas, Dragon
and Electron

2X Microfair:
report, pictures

Three Spectrum
games to
type in

Colours and
sprites on
Commodore 64

Three listings
for the VIC-20

Try our Texas
Telephone
games

AND: two
pages of letters,
U.S. Scene ...

Find the words
and win great
games from

MIKRO-GEN

In our
FREE
competition



For 2X
40p



For 2X
40p



**'Let's raid the
software
pirates'**

Software companies were
denying last night whether to
finance a raid on a big piracy
operation.

They have come across
countless tapes — complete
with full-colour sales cards —
which are so good that they can
hardly be distinguished from the
genuine products.

It would cost the Guild of
Software Houses about £5 000 to
get what is called an Action Filter
which allows a tape to be used.

And, if the case was later
brought to court, the bill could rise
to about £10 000.

GOSH chairman Nick
Alexander, managing director of
Continued on page 3

**'Ignore
rumours' —
Genie boss**

Of course Genie boss Alan
Whitford says his range of Hong
Kong-made computers is safe —
and blames competitors for
spreading false rumours.

Mr Whitford, managing
director of Lone Computers,
said: "We know some sort of re-
organisation was going on at
EACA, but we are still in touch
with the chief engineers and the
marketing manager."

"And there are plans on the
way to us with more products."

Continued on page 3

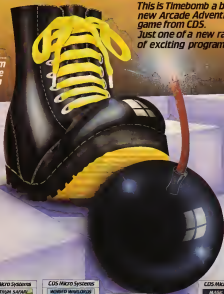


The CDS experience, more action... more adventure....

new...
Spectrum
Arcade
action

*This is Timebomb a brand
new Arcade Adventure
game from CDS.*

*Just one of a new range
of exciting programs...*



ONLY £5.95 each at WH Smith, Foyles, John Menzies and other leading Computer Stores, or
Available direct from CDS Micro Systems, Sand Caspary, PO Box 100, 10 Westfield Close, Tisbury, Wiltshire GNT 9LA. Tel: (02402) 741021
© Copyright 1991 CDS

BUY THIS SPACE

To advertise
your latest product!
Ring Colson or Barry on
01-457 1002 NOW!

Rescue Greta

Virgin is bringing out a follow up to its chart success, Future Patrol, written by the same programmer, Steve Lee. It is called Rescue Greta and the Gigawatt, at £7.95 for the Commodore 64, and is a maze game where the player has to rescue "Greta" from giant ants.

Virgin, 41-43 Porticoile St., London W1U

Paratrigger has written an Spectrum Editor/Assembler and Spectrum Monitor programs to add commands for easy Micro-drive, software-based file RS232C interface. Prices remain unchanged at £8.95 for the assembler and £1.95 for the monitor and they are promised next month. Existing owners can exchange their tapes for a £1.95 fee.

Paratrigger, 4 Coleridge Hill, West Wickham, Kent BR7 3EP

Mugen, an "easy to use" database for the Commodore 64, has been brought out by Androgem at £95.95. Designed for applications like mailing lists, records and inventory, start at £19.95.

Androgem, PO Box 88, Reading, RG2 0JW

All One tapes from PMS now have dual versions on the same cassette — one for the One-1 and a second for the newly-launched Athena. PMS has just brought out a 40K Spectrum game called Guardian and a version for the 32K BBC micro of Light Cycle, already available for the Spectrum and One.

PMS, c/o Space Station Ltd, Coventry CV4 5JG

A Pascal compiler for the Commodore 64 has been produced by Oxford Computer Systems. It is available on disc at £49.95.

Oxford Computer Systems, Wellington Rd, Woodstock, Oxford OX2 1JL

Home Computing WEEKLY

News, One Veteran's View	5, 6
32 Microtrain special report	5, 6
Software reviews	10
Solutions for Design Spectrum Machines etc.	
Commodore 64 programming	15
Send updates to your printer	
£1,000 Mikro-Gem competition	18
Spectrum software reviews	19
TI-99/4A software reviews	19
Oric software reviews	21
Software charts	23
Commodore 64 program	24
BBC program	27
Keep control of your cash	
BBC software reviews	30
TI-99/4A program	32
Software reviews	35
Local protocols for CERN, BBC, Diggle	
Spectrum programs	38
It's now hard to keep accounting and book-keeping	
Educational software reviews	39
Letters 1	41
U.S. Scene	42
VIC-90 program	43
Serving for battle	
Spectrum program	44
Letters 2	45
VIC-90 program	46

NEST NEWS: Free 40-page supplement on Spectrum and 3201 add-ons. Make sure you don't miss it — order NOW from your newsagent

Editor
Paul Cooper
(Design)
Brian Pollock
Managing Editor
Ruth Wilson
Chief Executive
Jan Crawford

Principal Advertisement Manager
Colson Press
Acting Advertisement Manager
Ruth Wilson
Business Advertisement Manager
Susan Gould
Chief Sales Advertising
Debra Campbell

Argon Specialist Publications Ltd,
No.1 Golden Square, London W1R 3AB 01-457 0626

Home Computing Weekly is published bi-weekly. Distribution by Argon Press
Sales and Subscriptions Ltd. 14-16 Paul Street, London EC2A 4PS. Printed by
Argon Press Limited, 14-16 Paul Street, London EC2A 4PS. Design and
production by MPA Design and Print, 14-16 Paul Street, London EC2A 4PS.

Is An
**URBAN
UPSTART**
Are You?

DESIGNED BY MICHAEL GIBSON



Commodore 64 owners: try our
special routine on page 15 —
and then join the prize which
starts on page 18

MIKRO-GEM

£1,000 worth of Mikro-Gem
games are waiting to be won —
start on page 18 and see if you
can spot the words



There's three Babbage cash for
the Spectrum and VIC-90 inside
now



Home Computing Weekly is
best for software reviews —
don't even page of them in
this issue. That's a total of 39
programs this week for you to
see on your panel

LLAMASOFT NEWS

NEW for the 8K Expanded VIC:

HELL GATE

A very fast-paced Arcade game featuring simultaneous control of 4 high-speed laser cannons. Unique game action is easy to learn yet difficult to master. Features include 20 levels to challenge your automatic Smart bombs; seven-place High Score table with score signature memory feature and full Attract mode. A superb Jeff Minter design presented immaculately on a 25 x 30 screen.

£9.00

COMMODORE 64: After finishing HELL GATE Jeff took a couple of days to plug the code into the '64. Whilst this is no Revenge or Hover B-owen, we are offering HELL GATE £4 at the bargain price of £5.00... an interesting diversion to occupy a little time while you wait for Jeff's next '64 epic, which we can now reveal will be called

SHEEP IN SPACE — for which Jeff promises the usual great graphics and sound — and also a totally new control concept... so prepare to feel extremely sheepish in a few month's time.

Until then — to all our followers

- A) HAPPY BLASTING/MOWING/SPITTING ETC.
- B) DON'T SHOOT THOSE GOATS!!!

BY JEFF MINTER FOR LLAMASOFT



llamasoft

AWESOME GAMES SOFTWARE

44 MOUNT PLEASANT, TATLEY, BASINGSTOKE, HANTS.

Piracy

From front page

Vince Clarke, said: "I hope they do though there should be a bust."

And GOSHA's managing director, Rod Coombs, who has been leading the anti-piracy campaign, said: "We must be seen to be taking action. If we don't it could lead to the destruction of the market."

"If we pull this one off it will be a major disaster."

GOSHA, which at present has 20,000 active members, will be addressed by Mr Coombs and an expert in piracy and shares the secretaries.

They are copies of tapes from about a half-dozen of the UK's best-known software houses.

Mr Coombs, who believes that there are at least seven copies for each package tape sold in the UK, said: "The quality was so good that we were shocked."

"Of course, we know piracy was on but these tapes made more, in some cases, better quality than the originals. The average person would not be able to distinguish them from the genuine products."

Mr Coombs believes that, as well as using the small Sony high-speed duplicators, many of the copies are being made by staff in legitimate printers and duplicating companies working long after hours.

GOSHA members will also be asked if they want to finance a continuing country-wide investigation to track down the pirates.

There has also been problems with overseas companies, licensed to produce UK-written software and sending it into the

UK underwriting grants. Agreements have been changed to avoid this.

Mr Johnstone, GOSHA secretary and organizer of the ISA Movement, said: "Let's face it, computer software is one of the few bright hopes for the future of our country."

"All these companies are growing rapidly and giving employment to people. We need a really strong UK industry to stand up to sell overseas and if this sort of thing happens it's going to go down the drain."

Club of Software Owners, 79 Park Lane, Tottenham, London N17 0WQ

Briefly

ADP Software has withdrawn its Acorn range, now no longer self-financing, but promises to continue on lifetime payments. ADP's first proposals were for the Acorn. The company is ending its mail order service from the end of the month. It says the service has become uneconomical and it will be able to offer a more cost-effective service to retailers.

ADP, Hyde Rd, Manchester M12 3DP

3D Book is a new educational game for the 48K Spectrum, priced at £5.95 from Camel Mount. Players control Mr Bill Board and avoid Sordy Spide while solving letters from alphabets. There are four levels of spelling difficulty and three to play. A standard word list can be changed.

Camel Mount, 334 Commercial Rd, Weymouth, Dorset

Genie is the stage. The only change will be a minor change in the function keys during the data input level. It has been back to allow users to control the cassette recorder volume.

Two more Genies are to be launched: a 48K Genie V and an IBM-compatible Genie VII with 128K of RAM.

Lowie has just brought out two new Genie peripherals. One is called the UC2A, priced at £8.95, which fits between the cassette head and the computer to give stable input.

The second, originally developed for commercial use, is a £20 priced cartridge which allows the use of a modem.

Mr Whitford is also exporting a German-made interface board for disc drives.

Lowie Computers, Clatterford Rd, Melford, Dereham NR11 5LE

Imagine's five at once

Imagine's next arcade game, due on this week, goes on sale in screens for five computers — Spectrum, Commodore 64, Sharp, BBC and Electron.

The aim is to make the most of the money spent on machines, and Imagine's Brian Rogers.

Paved at £2.50, Pedro takes its name from a character in the game who keeps a garden in Mexico and has to stop animals getting in the blooms.

Pedro is scored by a tune which sounds like *Where Have All the Flowers Gone?*

Mr Rogers said the tape was protected by nine copy-proofing techniques and that even if it was to be in four languages it would be sold in four weeks.

Imagine's warehouse in Liverpool was broken into and 15,000 games cassettes — enough to fill a lorry van — were stolen.

Imagine, 1 St Thomas St, Liverpool



ROM Extension Socket for the BBC micro

Outside ROM

ROMs or EPROMs can now be fitted inside the BBC micro with a ROM Extension Socket to the left of the keyboard.

It costs £25.95 and fits into a hole made using the maker's performance and plugs into the computer's ROM board.

First Educational Computing, 2 Westborough Grove, Sale, Cheshire M33 9XP

You could be on our pages

We welcome programs, articles and tips from our readers.

SOFTWARE must always be sent on cassette. Listings are helpful, but not necessary. Check carefully that they are bug-free, include details of what your program does, how it works, variables you have used and hints on conversion.

ARTICLES on using home computers should be no longer than 2,000 words. Don't worry about your writing ability — just try to keep to the style in HCL. Articles most likely to be published will help our readers make better use of their micros by giving useful ideas as possible with programming examples. We will convert any sketches/illustrations into finished art work.

TIPS are short articles, and brief programming routines which we can put together with others. Your hints can aid other computer users.

Competitive rates are paid.

Keep a copy of your submissions and include an SAE if you want them returned. Label everything clearly and give a daytime and home phone number if you can.

Paul Lipsett, Home Computing Weekly, No. 1 Golden Square, London W1R 9AL

Genie

From front page

He said: "One of our competitors started selling people our EACA, we no more. They were disappointed to not to ask us to sell their machine instead."

He had no such intention, he said. The 25K Colour Genie was selling slowly at £149 and so was the earlier models, the Genie I and II.

He said: "We are amazed we can still find a market for the Genie I and II after three years."

In the remote event of EACA, company manufacturers of the Genies, production could be taken up by the European distribution companies — particularly in Germany — said Mr Whitford.

In about a fortnight there will be a slightly different Colour

Now book is a game

Quacktack has turned a children's book into a computer game, thanks to a deal in a pub.

The Snowman, at £4.95 for the MSX Spectrum, is based on Raymond Briggs' picture-book of the same name.

Quacktack's software manager Mark Eyles said: "We were sitting in the pub trying to think up ideas and we thought it would be a good idea to turn books into games."

"And I started reading David Brown, who does lots of new artwork, and to be a student of Raymond Briggs."

Programmed by 19-year-old David Shee, the game is non-violent. A little boy has to build a snowman — and collect his tin, gloves, buttons, scarf, carrot and buttons — and find enough to stop it melting.

Asked if any other of his Briggs' books would appear as games, Mr Eyles said: "We'll see how The Snowman goes — that is something of a new experience for both of us."

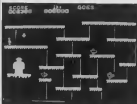
The Snowman is one of 10.

new Quacktack releases. The Snowman title, at £4.95, and Snowdrops, a graphic word-finding adventure written by four authors, is their summer holiday. First, a graphic adventure written by three programmers from Spanish and Irish backgrounds, and Lasercom, a space arcade game converted from the Commodore version which was written by Jeff Blum of Lasercom.

The Commodore 64 games, both £7.95, are Slugs 64, featuring Berlin Bees, and Frog 64 (also Frog), also by Indianapolis, converted from the similarly-named Spectrum version.

■ Quacktack has taken on the world rights for non-Spectrum versions of New Quacktack's range of software, including 3D Tunnel, Slugs, Frog 64 and Commodore 64 games. The first contracts will be for the Commodore 64 and managing director Rod Connor says he plans to market them also in America.

Quacktack, 11 Paternoster Rd, Southampton, Hants SO9 1EL.



A scene from The Snowman — based on a children's book.

NEW RELEASE **ORIGI** NEW RELEASE NEW REL

3D BATTLE STAR DEFENCE

"I challenge you to defy my superiority in the universe"

MISSION: Take your new X17 Starfighter, defend yourself from attacking forces. **SHOOT ON SIGHT!!!**

"100% machine code makes this game, fast, exciting. Includes special effects otherwise impossible to create."

FEATURES: Full sound & colour, adjustable volume and skill levels, full high score table, user definable control keys (suitable for joystick). One or two play options. **ONLY £6.50**

Available now for any ORIGI 1. Immediate delivery

FREE Blank tape with first 100 orders

FREE Postage & Packaging

**TOPAZ SOFTWARE, 49 Red Hill
Riverton Park, Sheffield S21 6DA**

Software: Be fair to the others

Despite being only 14, I could be described as a computer veteran. I started out learning BASIC on my uncle's Commodore PET. Then I got a Sinclair Spectrum (I was one of the first in my area) and I sat back and watched the computer market heat up before me.

The amount of Spectrum software then could have been counted on the fingers of one hand. But as the weeks turned to months and Uncle Dave's profits continued to soar, software started to spring onto the market, first in ones and twos and then in floods. It became continuously easier to get — first in W H Smith, then Boco and then the local bookshop/joinery — and I loved every minute of it.

Then, last Christmas, I decided to upgrade to the excellent BBC Micro. I still have some regrets though when the little Spectrum went to a new home. I felt I had been one of the pioneers of the popular computer market, campaigning for more and better software. But I looked forward to the better experiences and more serious software of the Boco.



I am now a month into my ownership of the Boco and I am feeling utterly cheated off.

Oh yes, the computer lived up to my expectations, but the software certainly did not. It wasn't the quality as much as the quantity of it that annoyed me. I'm sure that owners of less well-known computers know and understand my feelings.

Well, why should the Spectrum have the lion's share of the software? It's almost 2. It may be the best-selling computer, but that doesn't justify the sheer amount of software titles for it.

Instead of showing us more, often mediocre, software on the market for one machine as they can, why don't the software houses spend more time on the writing and release the titles simultaneously in versions compatible with various computers, in amounts depending on the popularity of the market?

This would be more fair on the owners of less well-selling but just as good for better computers and would also be better for the manufacturers. There could most certainly be a governing the best-selling game to run on the other market if they can do it with Jeopardy and The Hobbit. Why can't they do it with games?

I'm sure I speak for many here and I try not to be biased towards one computer, but let's see a marketing entrepreneur in the situation as the software companies may lose many of their established customers as well as their dearly-loved profits.

**Rory Vassili
Johnstone, Bradford**

■ This space is for you to rant off about the latest news. In recent issues, it has been about, or even has been about, our experience. Contributing from individuals now a list, last time was to Paul Knight, Editor, Home Computing Weekly, No. 1 Centre Square, London W4 1E 5AB.

SPECTRUM

ONLY
£5.50

**EXPERIENCE THE VISIBLE
ADVENTURE!**



5-6a Thomas Street
Liverpool, Merseyside L1 8HW
Dialer (Inquest) Contact
Call Screen on 051 236 4100/120 line

People queued for several hundred yards at the busy, 25A Microfair held in previous editions total.

About 11,000 went to Aldridge Palace this time, excluding about 1,500 complimentary ticket-holders. In December 11,000 attended a two-day show and there were 9,000 at the last quarterly event in August.

But the figures are a mixed blessing for organizer Mike Johnson, for whom this was the 10th Microfair.

He said: "It reminded me of the early show at the Royal Mansourland, when there were two liver gardens."

"The attendance this time was modest, say, but I people don't like to wait in the rain. I brought in the opportunity to buy early tickets to try and avoid this."

Mr Johnson, who is also secretary of the Guild of Software Dealers, is also concerned about the sales of copying programs.

He said: "I'm not very happy about it. Where I've noticed that people are selling programs which could be for breaching the Copyright Act or in breach of the law I will certainly stop them."

Andrew Lilling, 19 that day made his show debut as Sample Software. He was showing a new release version of Oliver Duck, a £5.50 educational program for the Spectrum.

Patricia Watson, marketing manager for North America for British Aerospace, said: "He runs the business entirely on his own, working with his £150 life savings which he used from his pocket money."

"He has his own bank account and keeps his own books and he's doing very well."

Oliver Duck, written with Martin Hill, written by Michael, is designed for children of two to eight and claims to teach a range from basic numbers to words of the year.

Andrew said: "We looked at some of the educational stuff and there was nothing that would teach kids a subject on a simple manner and they all stop about 2000."

Sample Software's products are on sale at a Software bookshop — run by Andrew's mother.

Education specialist Software showed its latest tape, Heli, designed for students of 'O'-level physics. Heli (£7.50) illustrates on Spectrum, Electron and BBC. It displays experiments, step-by-step formulae and worked examples of problems, provided.

Philip Aldridge, proprietor of PAL Software, was there with his first product, Microcube, for the 48K Spectrum (£4.99) — 34 puzzles on one tape. Mr

ZX Microfair: packed with products and people

What did you miss at the Microfair, even if you were there? Paul Liptrot toured the stands to find out what's new



■ Michelle Brown — with Compa/Quanta's improved Teletext

Aldridge, 36, a former systems analyst, said he next would be a crossword puzzle program.

In a few weeks adventure programmer Richard Integrated Software plans to bring out two more programs for the 48K Spectrum — one adventure and one strategy game — both written by male, female Peter Cooke, author of other Richard Integrated games. Conversion of existing Spectrum software for other computers are also due soon.

John and Gill Vaughan, trading as J.W. Software, were selling software and an 80311 emulator (£15.99) and emulators for Visi-data (£20) and Intype (£20) which allow access to Print and Teletext Gold. A package containing all three for the Spectrum costs £50.

David Hubbard, who now has a firm called Maynard Software, says his FORTH 83, multi-tasking and simulating an assembly, will be out on 6004 for the BBC in two weeks at £40.00. He already produces a FORTH 83 on 8004 for the Z80.

LEEM's Graphics/Sound Toolkit for the Spectrum (£5.99) is said to offer the choice of more than 80 patterns and options including installing in all directions, text, fill and color characters.

Precision Computer Centre, a north London shop, has formed a software arm and showed its first five products.

They are Games 1 and Games 2, both three-game tapes for the 48K Z801 at £3.99, a quiz game called Andromeda Trophy (£3.99) also for the 48K Z801 and two versions of a multi-teaching adventure, called Prince, Princess and the Wizard's Wand for the 48K Spectrum (£7.95) and the 16K Z801 (£3.95).

Paul Varma, proprietor of Precision Software, had more programs were in the pipeline.

A £14 disc system for the Spectrum was launched by Interactive Instruments. It comes in a plug-in module, containing the recording system, connected to a 15in. unit drive by ribbon cable. Both are available in 800K or 1600K. Both can be used on each disc. The system costs £250, interface about £99 and an extra disc connector — replacing the Spectrum connector occupied by the interface — cost £10.

Interactive is also making a Spectrum parallel controller and amplifier for Primatech's Peripheral, which has the UK license from a Swiss company called Big-Pop.

The parallel controller, Atari and Commodore compatible, has a gold-plated connector and a 10p-

increased output.

The second amplifier is connected to the Spectrum for cables and uses the computer's own power supply. It has a speaker, turn/hold switch, volume control and manual mute. Both products cost \$9.95.

A new Spectrum keyboard — with 39 keys including space bar — was shown by Transform. Based on Spectrum cables it includes a 12-key numeric keypad and, says Transform, needs no soldering to install. The company says it will include private Microsoft, Comshare, Plantronix and power supply. There is also an on/off switch with LED. Price £28.95.

Another floppy disc system is due out in about five weeks from Mavis Poulton. It will, says Mavis, enable 200K to be stored on a single 5 1/4-in. floppy and include three programs — a database, word processor and spreadsheet.

Flippo Associates were back to basics with its new adventure, *Castle*, at £9.95 for the 48K Spectrum. Publisher John Harland said "It's back on home ground for us. We started with adventures three years ago."

A range of seven planning aids from Drive Software used.

Top of the range, at £18.95, is a localised wallet, notepad, tape, sign-off, transmittal order forms and 20 copies each of four different paper plans. With a Microcode program in place of the C12 blank tape the price is £21.50.

Payday Revolution is a new game from Poppy Soft which is due out in four-six weeks. Written for the 48K Spectrum and priced at £3.95, you guide a robot trying to escape from a factory.

Newly formed 800 Software showed an first 48K Spectrum tape, *Woodstock*. L&Lware 48K/127.95, for children aged six-12. *Woodstock* (94.95) and two games, *The Trip* (48K) £3.95 and *Strider* (127.95) £9.95, is headed by three people, Yvonne Horrocks and Drs Andrew King, a mathematician, and Jan Mann, a physicist.

As usual, *Automata* went over the top with bizarrely-dressed stuff — including *Cosmothe Mars* (blue-white and black Mel Croucher) — a chess-piece based and free role-aid.

Automata's latest games, both with "young" as the other side, are *PH-Word* and *PH-Killed*. The new will be *GymPinnars*, by Andrew Stark. The new release cost £5 and run on the 48K Spectrum.

Instant fireworks in *Treks* is processing an Interleaf 1-compatible Spectrum



▲ Andrew Luing — 13-year-old owner of *Simply Software* — with dad, Wayne

keyboard.

And *Feller* is bringing out a keyboard-compatible interface and sound amplifier at £25.95.

Flex Electronics also has a Spectrum keyboard deal on offer. It is the *Speedway* model, priced at £50, with space bar and built-in amplifier. The computer does make, using the new roller connector so the Spectrum does not need to be updated.

Four new programs were shown by Dream The Code for the Holly Gals, a business graphics adventure, and Computer Aided Designer, adding 27 commands including FILL, both at £3.95 for the 48K Spectrum, and *The Dungeon Master* (£9.95), a graphic adventure-writer, and *Machine Code* for Spectrum (£2.95).

Widow-Gee had an enhanced version of its *Labyrinth* game for the Spectrum with nine telescopic

levels and *Treeing Design* had a new version of its *concrete-style* Spectrum user which can now also hold the interface 1, while converted, and up to three microdrives from IAT-48. A modeling for the earlier model is appropriate costs £17.45.

Computer Agencies, maker of *Print Pals* for the Spectrum, now produces six ranges for the Commodore 64 and 800K models. A pack of 10 A3 sheets costs £4.95 and 30 A3 graphics packs a £2.45.

A new smaller version of *Telecard*, which enables the use of the TV system, is now out from Computelink to fit into 3 Spectrum. It costs £8.95 and the company says it also made it a mistake to two with no software.

Conwell reviewed its new games, *Woodsy* and *10*, called *Starfire One* at £3.95 for the Spectrum.

IT-5 Spectrum Toolkit, from *Thomson*, adds 30 new keywords, a graphic-compatible high-resolution drawing program, a user-defined graphics aid, a tape control utility and a memory test program *Print* (£2.95 for other Spectrum).

Technology Research showed an FDC-1 Mk 2 *Flippo* Disc System for the Spectrum. It is a plug-in interface — with duplicate edge connector — to control one of two 40 or 80 track disc drives, single or double sided. The capacity for a 40-track single side is said to be 97K. TR-0001, system for the Spectrum, is an EPROM and uses the tape IC of RAM and has 33 commands.

Where to find them

Simply Software, 1-6 Baker Street, Middle Row, Old Town, Nottingham NG1 4AL.

Scottish, 3 Fleming Rd, Rushopon, Sandheworth.

PAL Software, Prosopon, London SE10.

Richard Shepherd, 21-23 Elmston Rd, Clapham, South, Berks.

J W V Software, 124 Apsley Dr, Gosport, New M17 3TA.

Reynolds, 10 Curran Rd, Broomfield, Haverhill, North 48W.

LEBIM, 16 George Dr, Croydon, Market Harborough, Leam.

Fincham, 15-17 Broad Green Rd, London W4.

Innovative Instruments, Unit 6, Fleet Hill, King's Lynn, Lincolnshire.

Financial Peripherals, 175 Highways St, Leicester.

Transform, 41 Great Hwy, Fyfeville, M3, Boreham, Kent.

Martin Poulton, 1226 King's Rd, Seaford, Sussex BN1 4JL.

Poppy Associates, 272 Elmston Rd, Swell, North 8179 803.

Orion Software, Poppy's Mill, London Rd, Dorking, Surrey.

Poppy Soft, The Close, Common Rd, Hingley, Leamington, Berks.

800 Software, 143-145 Underhill Rd, Ealing, London W10 5AV.

Automata, 27 Highland Rd, Perivale, Middx PO8 9BQ.

ST-Tonnet, Unit 6, Stone Hill Industrial Estate, Saffron Walden, Essex.

Feller, Micro Systems, The 22 Centre, 71 Dale St, Liverpool 2.

Flex Electronics, 141 Abbey Rd, Basingstoke, Hants.

Dream Software, P.O. Box 64, Broomfield, Hants RG21 2LR.

Micro-Gal, 1 Devonshire Cottage, London Rd, Bracknell, Berks.

Trepp, Denny, 51 Windsor Rd, Bramley, East 881 3AA.

Computer Agencies, 29 Sun St, Bishops, Hants SO2 1AT.

Computelink, 24/26 Leinster Ct, Southfield, Weymouth 88W 0ET.

Conwell, N. Weymouth Industrial Estate, Midway Rd, Hordern,

Weymouth-on-Thames, Surrey.

Thomson, 14 Hordern, London, Basingstoke, Essex SS15 6ED.

Technology Research, 358 Westgate Rd, London SE25 1NW.

R&R**SOFTWARE**

means value



As well as the time that value jumps that, and we make it just as fast. To ensure that we provide you with quality of games at realistic prices... I never tire myself.

ALL R&R GAMES NORMALLY HAVE CHOICE OF KEYBOARD OR JOYSTICK CONTROL.

Should you have difficulty in obtaining our products through our local dealer, please send cheque or Postal Order (including stamps, not, first, for return of post service).

CHOPPER X-1(For Amstrad)

An exceptional helicopter chopper in a beautiful 3D perspective view. The controls are simple and easy to use. An excellent game for the home or school.

£5.50**GALAXY WARRIORS**(For Amstrad)

A fast-paced strategy game with a 3D perspective view. The controls are simple and easy to use. An excellent game for the home or school.

£5.50**JUNIOR ARITHMETIC**(For Amstrad)

A fast-paced arithmetic program for 10 years old. The controls are simple and easy to use. An excellent game for the home or school.

£4.95**SPECTIPED**(For Amstrad)

A fast-paced game with a 3D perspective view. The controls are simple and easy to use. An excellent game for the home or school.

£5.50**GOLF**(For Amstrad)

A fast-paced game with a 3D perspective view. The controls are simple and easy to use. An excellent game for the home or school.

£3.75**GNASHER**(For Amstrad)

A fast-paced game with a 3D perspective view. The controls are simple and easy to use. An excellent game for the home or school.

£4.95**STAR TREK**(For Amstrad)

A fast-paced game with a 3D perspective view. The controls are simple and easy to use. An excellent game for the home or school.

£4.95**OTHER COMPUTERS?**

Send us your details for a free copy of our software list.

DEALER ENQUIRIES WELCOME
R&R Software Ltd
15 Pinner Street, Gloucester GL1 1NE.
Tel 0452 522819

R&R**SOFTWARE**

CALLING ALL PROGRAMMERS
WANTED: New, Quality Software
Send us your latest program
for evaluation - NOW

AVAILABLE FROM LEADING DEALERS NATIONWIDE



TRACKS



**FAST
MAIL
ORDER
SERVICE**

HOME ENTERTAINMENT CENTRE

**POST
FREE!**

**HEAD OFFICE (MAIL ORDER DEPT.)
5 KING STREET, MELTON MOWBRAY,
LEICS LE13 1XA
TEL: (0664) 68223/62517**

SPECTRUM

AM DODGERS	£2.45
BLACK HOLE	£2.45
CONQUERORS OF GENIUS	£2.95
JET PAC	£2.45
ORION JET PAIR	£2.95
COOLIT	£2.45
STARDUST	£2.95
PILOT	£2.45
ARCADE ADVENTURE	£2.45
ESPIONAGE ISLAND	£2.95
CHICKENED FLAG	£2.95
CRASH MAN	£2.45
FOOT RACER	£2.95
DANGER DASH	£2.95
ARCADE	£2.45
MOLAR MAUL	£2.45
BOOM	£2.45
BOSSBORN	£2.95
ZIP ZAP	£2.45
SALADANCE	£2.95
EVEREST ASCENT	£2.45
WARRIOR	£2.95
WARRIOR ATTACK	£2.95
FLIGHT SIMULATOR	£2.45
AQUAPLANE	£2.45
EXTREME BLASTER	£2.95
DRESS PLAYER	£2.45
PRINCEY	£2.45
GAMER DESIGNER	£2.95
GRID RUNNER	£2.95
MIND OUT	£2.45
VIDEOMAN (LAW)	£2.95
3D STRATEGY	£2.45
RIGHT FLITE	£2.95
RACING MANAGER	£2.95

DRAGON

ARCADE RACER CONTROLLER	£2.95
800 SEX	£2.95
CARTER'S ADVENTURE	£2.95
DANGER ISLAND	£2.95
DEATH CRUISE	£2.95
GOLF	£2.95
HANDICAP GOLF	£2.95
HORROR AND THE SPIDER	£2.95
HORROR GOLF BOWLS	£2.95
HUNTER HORROR	£2.95
1-0-ING	£2.95
EYES OF ACORN	£2.95
LEG IT	£2.95
MIND OUT	£2.95
STRELLER	£2.95
ET GORGE	£2.95
USE	£2.95
OUTRINT IN THE ARCADE	£2.95

SPECIAL OFFERS!

JOYSTICKS	
GAUSSSHOT JOYSTICK	£7.95
GAUSSSHOT II	£9.95
ATARI	£8.95
JET JOYSTICK	£28.95
VIDEO COMMAND	£12.95
PADLOCK	£12.95

STACKLIGHT PENS

ATARI	£27.95
BBC	£27.95
CAME 64	£27.95
VIC-20	£27.95

VIC-20

AQUA ATTACK	£2.95
CRUSTY KONG	£2.95
PROGGER	£2.95
JET PAC (R)	£2.45
SIN CITY	£2.95
EVEREST ASCENT	£2.45
STAR TREK	£2.95

COMMODORE 64

ARCADE	£2.95
CRUSTY KONG	£2.95
PROGGER	£2.95
PURPLE TURTLES	£2.95
SIN CITY	£2.95
EVEREST ASCENT	£2.95
PROGGER	£2.95
STAR TREK	£2.95
GALAXIAN 64	£2.95
JUPITER LINDER HOME	£2.95
SLA WOLF HOME	£2.95
FALCON PATROL	£2.95

ATARI 600/800 XL

GAMER KONG	£29.95
CLIMBER	£29.95
SEMPER ATTACK	£29.95
GALAXIAN	£29.95
JUPITER JET PILOT	£29.95
SEMPER COMRA	£29.95
SEMPER RACE	£29.95
SOCCER	£29.95
MOON SWEEPER	£29.95
GT	£29.95
FATHOM	£29.95
LOVE OF THE RINGS	£29.95
Q-BERT	£29.95
TUMBLINGHAM	£29.95
PIRE	£29.95
MOBILE COMMAND	£29.95
NOVA BLAST	£29.95
OMNIS	£29.95
PICTURE PILOT	£29.95
POOL	£29.95
SCRAM	£29.95
SAVEDER	£29.95
VARIETY OF ZUBON	£29.95
NOVA HANGER	£29.95
NOVA RACE	£29.95
BLACK JACK	£29.95
DATA BASE	£29.95
POWER PIC	£29.95
MAGIC WINDOW	£29.95
PICCO	£29.95
VENUS VOYAGER	£29.95

**JUST £49.95 FOR THE
ATARI PROGRAM RECORDER!
COMMODORE RECORDER £42.95**

**SOFTWARE FROM £4.95 FOR THE
SPECTRUM, BBC, ATARI 600XL/800XL,
VIC200, COMMODORE 64, VIC-20, ORIC,
DRAGON AND TEXAS COMPUTERS.**

MANY MORE AVAILABLE! SEE FOR LISTS.

Please find enclosed Cheques/PO or debit my Access/Visa Card

No. _____ for the following game for the
_____ computer.

1. _____ 4. _____
2. _____ 5. _____
3. _____ 6. _____

NAME _____

ADDRESS _____

EDUCATIONAL SOFTWARE

We stock a large selection for all ages. From Mr Men to 10+ Level Maths! inc Astro Maths/Jungle Maths, Mr T Tells the Time, Mr T Money Box

Programs to dump the contents of the Commodore 64's screen to a printer are fairly common, but sprites need a special routine because of the way they are stored.

This program is such a routine, and will work directly on a 1024-graphic printer but should work on a 1145 or 1128 with a little modification — see your printer manual for the relevant details.

How it works

20-40 print titles and open file to printer

50-100 output printing details
101-140 single-color sprites
141-180 print blank line if required

181-220 transfer sprite data to printer

221-260 print blanking as required

270-300 as above, but for double-colored sprites

The sprite data is read directly from its place in memory. The

Send those sprites to your printer

Sprites on the Commodore 64 need a special routine to dump them to a printer. Iain Murray's program does the job

sprite should be in the first block of memory's 0 address (0-1024), but if you are using sprites from elsewhere (say, the memory address in line 94), it should be modified as required.

The program breaks the sprite data down into its component bits — or, to be exact, in the case of multi-colored sprites — and prints the corresponding shading patterns on the printer.

It also allows the option of the sprite function of expansion in the X, Y or both directions.

Notes: As usual, control characters are explained as lines above. These ROMs should not be typed in.

Variables

T0, T1, T2 print counters
S0 sprite block number (0-231)
X, Y sprite start address
D0 double-width flag
D1 double-height flag
X, Y sprite data row, column
R, C, C2, C3 row types

```
1000 REM ***** SENDING SPRITES *****
1010 REM ***** IAIN MURRAY *****
1020 REM ***** 1987 *****
1030 REM ***** 1145 *****
1040 REM ***** 1128 *****
1050 REM ***** 1024 *****
1060 REM ***** 1024 *****
1070 REM ***** 1024 *****
1080 REM ***** 1024 *****
1090 REM ***** 1024 *****
1100 REM ***** 1024 *****
1110 REM ***** 1024 *****
1120 REM ***** 1024 *****
1130 REM ***** 1024 *****
1140 REM ***** 1024 *****
1150 REM ***** 1024 *****
1160 REM ***** 1024 *****
1170 REM ***** 1024 *****
1180 REM ***** 1024 *****
1190 REM ***** 1024 *****
1200 REM ***** 1024 *****
1210 REM ***** 1024 *****
1220 REM ***** 1024 *****
1230 REM ***** 1024 *****
1240 REM ***** 1024 *****
1250 REM ***** 1024 *****
1260 REM ***** 1024 *****
1270 REM ***** 1024 *****
1280 REM ***** 1024 *****
1290 REM ***** 1024 *****
1300 REM ***** 1024 *****
1310 REM ***** 1024 *****
1320 REM ***** 1024 *****
1330 REM ***** 1024 *****
1340 REM ***** 1024 *****
1350 REM ***** 1024 *****
1360 REM ***** 1024 *****
1370 REM ***** 1024 *****
1380 REM ***** 1024 *****
1390 REM ***** 1024 *****
1400 REM ***** 1024 *****
1410 REM ***** 1024 *****
1420 REM ***** 1024 *****
1430 REM ***** 1024 *****
1440 REM ***** 1024 *****
1450 REM ***** 1024 *****
1460 REM ***** 1024 *****
1470 REM ***** 1024 *****
1480 REM ***** 1024 *****
1490 REM ***** 1024 *****
1500 REM ***** 1024 *****
1510 REM ***** 1024 *****
1520 REM ***** 1024 *****
1530 REM ***** 1024 *****
1540 REM ***** 1024 *****
1550 REM ***** 1024 *****
1560 REM ***** 1024 *****
1570 REM ***** 1024 *****
1580 REM ***** 1024 *****
1590 REM ***** 1024 *****
1600 REM ***** 1024 *****
1610 REM ***** 1024 *****
1620 REM ***** 1024 *****
1630 REM ***** 1024 *****
1640 REM ***** 1024 *****
1650 REM ***** 1024 *****
1660 REM ***** 1024 *****
1670 REM ***** 1024 *****
1680 REM ***** 1024 *****
1690 REM ***** 1024 *****
1700 REM ***** 1024 *****
1710 REM ***** 1024 *****
1720 REM ***** 1024 *****
1730 REM ***** 1024 *****
1740 REM ***** 1024 *****
1750 REM ***** 1024 *****
1760 REM ***** 1024 *****
1770 REM ***** 1024 *****
1780 REM ***** 1024 *****
1790 REM ***** 1024 *****
1800 REM ***** 1024 *****
1810 REM ***** 1024 *****
1820 REM ***** 1024 *****
1830 REM ***** 1024 *****
1840 REM ***** 1024 *****
1850 REM ***** 1024 *****
1860 REM ***** 1024 *****
1870 REM ***** 1024 *****
1880 REM ***** 1024 *****
1890 REM ***** 1024 *****
1900 REM ***** 1024 *****
1910 REM ***** 1024 *****
1920 REM ***** 1024 *****
1930 REM ***** 1024 *****
1940 REM ***** 1024 *****
1950 REM ***** 1024 *****
1960 REM ***** 1024 *****
1970 REM ***** 1024 *****
1980 REM ***** 1024 *****
1990 REM ***** 1024 *****
2000 REM ***** 1024 *****
```



A selection of graphics produced using Iain Murray's routine. If they look familiar it's because they all come from Iain's Twelve Days of Christmas program in our December 28 issue



ULTIMATE



THE NOT-SO-SOFTWARE

CAN YOU HANDLE THE **ULTIMATE**?
THE MOST AMAZING PROGRAMMES THE SMOOTHEST
ACTION THE HIGHEST RESOLUTION GRAPHICS!
ALL **ULTIMATE** GAMES ARE ARCADE STANDARD

FEATURE PACKED, 100% MACHINE CODE
AND PURE ADDICTION.
SO WHICH WILL BLOW FIRST - YOUR COMPUTER OR
YOUR MIND?



Cobra 16 1989 12 Top Gun



Three Men in a Boat



Trans-Am 16 1989 12 Top Gun



F1 16 1989 12 Top Gun



Attica 16 1989 12 Top Gun



Vic 20 16 1989 12 Top Gun

ONLY £5.50 EACH

All these games in a
special format

Available from 1989 South Coast, John
Barnes, Spectrum Games, Impulsepoint
and a host of other software retailers. Or send the coupon to get
the books and your own order is guaranteed to be delivered!

Send me the following:
☐ Cobra ☐ Trans-Am ☐ F1 ☐ Three Men in a Boat
☐ Attica ☐ Vic 20 ☐ Impulsepoint

Send me cheque/PO for £ _____ Name _____
Address _____

Send to:
Ultimate Play The Game
The Green
Abley de la South
Leamington



PEDRO

“Vengo”

“Vengo”

“Vengo”

Pedro is one mad mexican gardener, and he's bringing his troubles your way.

Can you stop the animals eating your plants?

Can you block up the maze exits to keep them out of your garden?

Can you scare away the thieving tramp who's after your precious seeds?

Can you stop yourself pulling out your hair with frustration?

Find out soon, with PEDRO.



For the
48K SPECTRUM
COMMODORE 64
DRAGON 32
BBC Model B
ELECTRON



£5.50

More than fun and games!

FIRST STEPS with the Mr. Men

by Mr. Men and Mr. Bump

The ever-popular Mr. Men help prepare young children for reading with four simple and absorbing games designed to exercise essential skills as well as entertain.

An easy-to-use, colour-coded key guide is included with an illustrated introductory book featuring the Mr. Men. For ages 4 to 8 years. Available now on cassette for the BBC B, Spectrum 48K and Electron **£8.95**



QUICK THINKING!

by Mr. Men and Mr. Bump

Two mind-stretching, space-age games to test mental arithmetic and nimble fingers.

In **Sum Vadars** alien robots invade the earth. Only quick thinking and fast reactions can prevent them. Several levels of difficulty and a two-player game with a handicap option make Sum Vadars equally testing for all family members. From 8 years to adult.

Robot Tables challenges the young player to make a series of perfect robots.

Knowing your multiplication tables is the key to controlling the robot-making machine. With a learning mode and a testing mode, Robot Tables is a fun way

for early learners, and more advanced children, to master an important and often neglected skill.

Available now on cassette for the Spectrum 48K, Commodore 64, BBC B and Electron **£8.95**



CAESAR THE CAT

by Mr. Men and Mr. Bump

Meet Caesar, a cheeky young cat on duty in a well-stocked larder. He's kept busy chasing a gang of hungry mice-eating the family's food. Playing against the clock, you guide Caesar along crowded shelves to pounce on the mice.

A fast, colourful, all-action, arcade-style game with catchy music and a best-score record. Challenging for high-scoring arcade addicts as well as great fun to play for the novice.

Available on cassette for the Commodore 64 **£8.95**



Please include VAT and post and packaging. MICROSOFT products are available from selected branches of WH. Smith and Wills, and other leading software stockists.

Trade enquiries welcome, phone 01 822 3580

MICROSOFT

SOFTWARE FOR ALL THE FAMILY

© 1985 MICROSOFT CORPORATION, Redmond, WA, USA

Microsoft and the Microsoft logo are registered trademarks of Microsoft Corporation in the USA and other countries.

Microsoft, the Microsoft logo, and the names of the Microsoft products are registered trademarks of Microsoft Corporation in the USA and other countries.

Microsoft, the Microsoft logo, and the names of the Microsoft products are registered trademarks of Microsoft Corporation in the USA and other countries.

Microsoft, the Microsoft logo, and the names of the Microsoft products are registered trademarks of Microsoft Corporation in the USA and other countries.

Microsoft, the Microsoft logo, and the names of the Microsoft products are registered trademarks of Microsoft Corporation in the USA and other countries.

Microsoft, the Microsoft logo, and the names of the Microsoft products are registered trademarks of Microsoft Corporation in the USA and other countries.

Microsoft, the Microsoft logo, and the names of the Microsoft products are registered trademarks of Microsoft Corporation in the USA and other countries.

Microsoft, the Microsoft logo, and the names of the Microsoft products are registered trademarks of Microsoft Corporation in the USA and other countries.

Microsoft, the Microsoft logo, and the names of the Microsoft products are registered trademarks of Microsoft Corporation in the USA and other countries.

Microsoft, the Microsoft logo, and the names of the Microsoft products are registered trademarks of Microsoft Corporation in the USA and other countries.

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

Microsoft Corporation, 1000 Microsoft Way, Redmond, WA 98073, USA

MSD

© 1985 MICROSOFT CORPORATION, Redmond, WA, USA. All rights reserved. Microsoft, the Microsoft logo, and the names of the Microsoft products are registered trademarks of Microsoft Corporation in the USA and other countries.

AT LAST

EDUCATION

A TRUE EDUCATIONAL PROGRAM FOR YOUR ORIC-1

Designed for the 4 to 8 years age group, it also provides useful revision for older children, including as it does:-

- ★ **FULL RANGE OF MULTIPLICATION TABLES** — With a random test of each table requiring a verbal answer from the pupil. This can speed up response time and improve retention
- ★ **THREE LEVELS OF TABLE TESTS** — Requiring an input answer — Demands accuracy
- ★ **FOUR LEVELS OF ADDITION** — Requiring input answers
- ★ **FOUR LEVELS OF SUBTRACTION** — Requiring input answers
- ★ **FOUR LEVELS OF DIVISION** — Requiring input answers
- ★ ★ **HIGH RESOLUTION DRAWING FACILITY** — Enables older children to use skill and imagination designing their own drawings directly on to the screen, no programming is required. The drawing can even be animated using only four basic commands — Hours of fun. For the younger children a 'Draw by Numbers' helps with counting.

This program makes good use of the computer as a teaching aid. Multiplication Tables (the very basis of all school maths) can be learnt much more quickly and pleasantly than by conventional methods.

THE COMPUTER NEVER LOSES ITS TEMPER OR PATIENCE.

'TEACHER/MATHS' • SUPPLIED ON CASSETTE • WITH FULL INSTRUCTIONS (5-65)

ALSO	REBELS ATTACK (Model)	£5.95	ENCOUNTER (Adventure)	£7.95
	SUPERSEVEN (Adventure)	£4.95	GAAL (Adventure)	£4.95
	EMERALD KING (Adventure)	£4.95	ORCADE (Adventure)	£4.95
	JOKERS (Adventure)	£4.95	CHIEF	£9.95 FROM

EVANS SYSTEMS.

Kilstay Bay, Drummors, Stranraer DG9 8QT

077684 345

DITTO DATA LTD

ATTENTION ALL TOP PROGRAMMERS !!

YOUR BEST AND ONLY THE BEST MACHINE CODE GAME PROGRAMS FOR COMMODORE 64 — VIC 20 — B.B.C. AND SPECTRUM.

WE WILL ENSURE YOUR PROGRAM HAS MAXIMUM SALES SUPPORT, WITH OUR LARGE DEALER AND MARKETING NETWORK.

OUR OWN LARGE INHOUSE DUPLICATING OF TAPES AND DISCS.

Contact: **NEW PROJECTS DIRECTOR
DITTO DATA LTD.
CORNER HOUSE
6-8 THE WASH
HERTFORD
SG1 4JPK**

Telephone: HERTFORD 554474/554484

"ADVENTURES INTO IMAGINATION"

URBAN UPSTART

An adventurous escape
from 20th Century suburbia
with over 90 graphic locations.



STOP

NO ENTRY

DEAD END

CREDIT CARD
HOTLINE
04206 46821
24 hours

Your Quest: To escape from Scarthorpe!

Scarthorpe is the sort of town where even the dogs carry lock knives! Where there's only one road in, and that's a one way street! The sort of town where rebuilding means a new coat of paint, and where people queue up to queue up for a job! Not many people come to Scarthorpe, and even fewer leave. The church bells chime thrice in the morning... the streets are deserted... now is your chance to escape from Scarthorpe! 40k Spectrum £14.95

RICHARD SHEPHERD SOFTWARE

ELM HOUSE, 23-25 ELMHOTT LANE, CIPPHENHAM, SLOUGH, BERKS.

Top Ten programs for the Commodore 64

- | | | |
|----|-----------------|-----------------|
| 1 | Gravy Kong | Interceptor (—) |
| 2 | Space Shuttle | Microdeal (44) |
| 3 | Skunkhole | Interceptor (—) |
| 4 | Cyberia Galaxy | Tekart (10) |
| 5 | Hover Bover | Lamasoft (—) |
| 6 | Frogger | Interceptor (2) |
| 7 | Falcon Patrol | Virgin (—) |
| 8 | Grandmaster | Audiotape (—) |
| 9 | Marco Menes | Acadepanel (—) |
| 10 | Paradise Forest | CompuSoft (24) |

Compiled by Websters. Figures in brackets are last week's positions.

Top Ten programs for the Spectrum

- | | | |
|----|------------------|---------------|
| 1 | Arc Atax | Ultimate (2) |
| 2 | Chequered Flag | Pyan (1) |
| 3 | Mojo Muter | Bug-Byte (5) |
| 4 | Lunar Jetman | Ultimate (4) |
| 5 | Kong | Ocean (10) |
| 6 | Flight Simulator | Pyan (7) |
| 7 | Deathchase | Microcups (2) |
| 8 | Arm Attack | Quackhole (8) |
| 9 | Hunchback | Ocean (—) |
| 10 | Jetpac | Ultimate (—) |

Compiled by M H Smith. Figures in brackets are last week's positions.

Top Ten programs for the VIC-20

- | | | |
|----|-------------------------|-----------------|
| 1 | Beethoven | Imagine (—) |
| 2 | Wizard and the princess | M House (1) |
| 3 | Catsia Saxons | Imagine (—) |
| 4 | Gravy Kong | Interceptor (—) |
| 5 | Snailers | Vision (—) |
| 6 | Flight Simulator | Forrest (—) |
| 7 | Superduper/Banana Run | Demomart (—) |
| 8 | Wacky Waters | S-Tel (2) |
| 9 | Skyhawk | Imagine (—) |
| 10 | Ataxia | Quackhole (—) |

Compiled by Websters. Figures in brackets are last week's positions.

Top Ten programs for the Dragon

- | | | |
|----|---------------------|----------------------|
| 1 | Space Shuttle | Microdeal (44) |
| 2 | Eight Ball | Microdeal (11) |
| 3 | Lagga | Imagine (—) |
| 4 | Survivors | Microdeal (—) |
| 5 | Dragonquest | Cyrix (2) |
| 6 | Druid Astron | Microdeal (24) |
| 7 | Transylvania Tower | Richard Shepherd (—) |
| 8 | Grandmaster | Kanfig (8) |
| 9 | Intergalactic Force | Microdeal (2) |
| 10 | Ring of Darkness | Wintersoft (—) |

Compiled by Websters. Figures in brackets are last week's positions.

BEST SELLERS

Top 30

- | | | | |
|----|----------------------|------------------------|---------------|
| 1 | Hunchback | Ocean | Spectrum (8) |
| 2 | Mario Miner | Soft Projects/Bug Byte | Spectrum (1) |
| 3 | Harrier Attack | Durell | Spectrum (15) |
| 4 | Lunar Jetman | Ultimate | Spectrum (3) |
| 5 | Jetpac | Ultimate | Spectrum (4) |
| 6 | The Hobbit | M House | Spectrum (2) |
| 7 | 3D Arc Attack | Quackhole | Spectrum (6) |
| 8 | Kong | Ocean | Spectrum (7) |
| 9 | Zoozem | Imagine | Spectrum (9) |
| 10 | Falcon Patrol | Virgin | C64 (4) (12) |
| 11 | Planetstrike | M House | Spectrum (—) |
| 12 | The Hobbit | M House | C64 (4) (16) |
| 13 | Alex Atax | Ultimate | Spectrum (10) |
| 14 | Valhalla | Legend | Spectrum (20) |
| 15 | Horror goes Sking | Pyan | C64 (4) (14) |
| 16 | Curfew in the Jungle | Microdeal | Dragon (18) |
| 17 | Chequered Flag | Pyan | Spectrum (28) |
| 18 | The King | Microdeal | Dragon (17) |
| 19 | Dragon Den | Ocean | Spectrum (—) |
| 20 | Chuckle Egg | A&F | Spectrum (29) |
| 21 | Ataxia | Imagine | VIC-20 (21) |
| 22 | Mine Kong | Axnox | VIC-20 (—) |
| 23 | Hunchback | Superior | 800 (12) |
| 24 | Hover Bover | Lamasoft | C64 (4) (—) |
| 25 | Jetpac | Ultimate | VIC-20 (24) |
| 26 | Skunkhole | Solo | VIC-20 (—) |
| 27 | Mixed Out | Quackhole | 800 (—) |
| 28 | Gravy Kong | Interceptor | C64 (4) (—) |
| 29 | Twin Kingdom | Bug Byte | C64 (4) (20) |
| 30 | Snailers | Vision | VIC-20 (—) |

Compiled by PCS Distribution (0204 601211) and endorsed by the Computer Trade Association. Data is for retail sales in individual outlets in the UK and Northern Ireland for the fortnight ended February 27.

Top Ten programs for the ZX81

- | | | |
|----|------------------|---------------|
| 1 | Asteroids | Quackhole (1) |
| 2 | Survivors | Quackhole (4) |
| 3 | Football Manager | Addictive (—) |
| 4 | Dafenders | Quackhole (2) |
| 5 | Invaders | Quackhole (3) |
| 6 | ZX Assembler | Bug Byte (—) |
| 7 | Gravy Kong | F&B (7) |
| 8 | Supernova Island | Section (—) |
| 9 | Mr Oric | Snailers (—) |
| 10 | ZX D-B | Bug Byte (20) |

Compiled by Websters. Figures in brackets are last week's positions.

Your Best Source of Best Sellers



We know what's selling

As a leading distributor of home computer software, we know what's selling in retail outlets. We've also got the knowledge and capability to best service and supply the requirements of quality computer shops nationwide.

The 12 top games featured above are available now in

John Menzies Spectrum

shops and other good computer shops supplied by Tiger Distribution.
Make sure of your stocks - and our support - by contacting your
Tiger Distribution van-salesman - or by phoning our tele-salesgirls
on 051-420 8888.

Tiger Distribution, Commercial House, 4 Victoria Road, Wilmslow, Cheshire, WA8 9QY

Your Best Source of Best Sellers

(0404)44425

**This is the
number for**

TEXAS INSTRUMENTS
SOFTWARE

**Britain's
biggest
TEXAS
software
stockist**

Send S.A.E. for full list of Hardware
and Software from our vast stocks

EXTENDED BASIC	£48.00
SPEECH SYNTHESISER	£34.28
CHIESS	£27.90
T.I. MATRIX PRINTER	£380.00
32K MEMORY EXPANSION	£89.00
ADVENTUREMANIA	£8.98

**PARCO
Electrics**

A COMPANY PLACING
NEW UTILITY
POSITION
OFFERS

CALLING ALL AQUARIUS USERS!



now there's a User Guide especially for
you. For just £5.95 you can join the AQUARIUS
USER group and get a monthly magazine
which gives you all the latest on your
Aquarius news, facts and features.

AQUARIUS USER

AQUARIUS USER is packed with information written by experts in
cover details on new products, and particularly answers all the
small (software) queries! Many other home computers use the
same circuitry, so comparisons, when appropriate, are made.

If you're part of the growing cove of AQUARIUS join AQUARIUS USER
now. ADDRESS: USER 170, 65 Wyndham Road, London W9.

Name
Address
Postcode
Please send me 6 issues of AQUARIUS USER I enclose £10.00 subscription fee for one year payable to Aquarius User Ltd, 65 Wyndham Road, London W9

Access Card holders ring 01-930 3475 (24 hours)

DRAGON 32/SPECTRUM 48

This highly acclaimed PERSONAL BANKING SYSTEM
includes the following features:

- Permanent records of your Bank Account
- Single or sequential pages of entries
- Automatic printing of standing orders
- Full search facility with on-line verification of any item
- Full instructions and demonstration file included
- Additional Bank Reconciliation module included to match
your PDS form automatically with your Bank Statement
- PLUS after sale maintenance

PRICE: £12.00 (cassette and manual)
£18.00 enhanced DRAGON BASIC version (but
excluding Bank Reconciliation module as
present)

UTILITIES 1 — These machine code programs in one
• CASSETTE CATALOGUES
• COMPIRES (removes all HIRTS) and saves from BASIC
programs)

PRICE: £5.00 (cassette) — DRAGON

DISASSEMBLER — all in machine code —
Prints to either Screen or Printer in Hex and Mnemonics

PRICE: £5.50 (cassette) — DRAGON

32 MEMORY MAP — Over 9 A4 pages of memory locations
in the DRAGON system

PRICE: £5.00 (booklet)



**HILTON
COMPUTER
SERVICES**

Hilton Computer Services Ltd
104a Bk 1, 14 Avenue Road,
Croydon, Surrey CR9 3AN
Tel: 0181-606-0100 or your local telephone

BBC PROGRAM

```

1000 PRINT
1010 PRINT "NAME: ", NAME; "ADDRESS: ", ADDRESS; "CITY: ", CITY
1020 INPUT " "
1030 IF YES="Y" GOTO END1; PRINT "NO"
1040 IF YES="N" GOTO END1; PRINT "YES"
1050 PRINT " "
1060 INPUT "NAME: "
1070 PRINT " "
1080 INPUT "ADDRESS: "
1090 PRINT " "
1100 INPUT "CITY: "
1110 PRINT " "
1120 PRINT "NAME: ", NAME; "ADDRESS: ", ADDRESS; "CITY: ", CITY
1130 PRINT " "
1140 PRINT "YES: ", YES; "NO: ", NO
1150 PRINT " "
1160 PRINT "YES: ", YES; "NO: ", NO
1170 PRINT " "
1180 PRINT "YES: ", YES; "NO: ", NO
1190 PRINT " "
1200 PRINT "YES: ", YES; "NO: ", NO
1210 PRINT " "
1220 PRINT "YES: ", YES; "NO: ", NO
1230 PRINT " "
1240 PRINT "YES: ", YES; "NO: ", NO
1250 PRINT " "
1260 PRINT "YES: ", YES; "NO: ", NO
1270 PRINT " "
1280 PRINT "YES: ", YES; "NO: ", NO
1290 PRINT " "
1300 PRINT "YES: ", YES; "NO: ", NO
1310 PRINT " "
1320 PRINT "YES: ", YES; "NO: ", NO
1330 PRINT " "
1340 PRINT "YES: ", YES; "NO: ", NO
1350 PRINT " "
1360 PRINT "YES: ", YES; "NO: ", NO
1370 PRINT " "
1380 PRINT "YES: ", YES; "NO: ", NO
1390 PRINT " "
1400 PRINT "YES: ", YES; "NO: ", NO
1410 PRINT " "
1420 PRINT "YES: ", YES; "NO: ", NO
1430 PRINT " "
1440 PRINT "YES: ", YES; "NO: ", NO
1450 PRINT " "
1460 PRINT "YES: ", YES; "NO: ", NO
1470 PRINT " "
1480 PRINT "YES: ", YES; "NO: ", NO
1490 PRINT " "
1500 PRINT "YES: ", YES; "NO: ", NO
1510 PRINT " "
1520 PRINT "YES: ", YES; "NO: ", NO
1530 PRINT " "
1540 PRINT "YES: ", YES; "NO: ", NO
1550 PRINT " "
1560 PRINT "YES: ", YES; "NO: ", NO
1570 PRINT " "
1580 PRINT "YES: ", YES; "NO: ", NO
1590 PRINT " "
1600 PRINT "YES: ", YES; "NO: ", NO
1610 PRINT " "
1620 PRINT "YES: ", YES; "NO: ", NO
1630 PRINT " "
1640 PRINT "YES: ", YES; "NO: ", NO
1650 PRINT " "
1660 PRINT "YES: ", YES; "NO: ", NO
1670 PRINT " "
1680 PRINT "YES: ", YES; "NO: ", NO
1690 PRINT " "
1700 PRINT "YES: ", YES; "NO: ", NO
1710 PRINT " "
1720 PRINT "YES: ", YES; "NO: ", NO
1730 PRINT " "
1740 PRINT "YES: ", YES; "NO: ", NO
1750 PRINT " "
1760 PRINT "YES: ", YES; "NO: ", NO
1770 PRINT " "
1780 PRINT "YES: ", YES; "NO: ", NO
1790 PRINT " "
1800 PRINT "YES: ", YES; "NO: ", NO
1810 PRINT " "
1820 PRINT "YES: ", YES; "NO: ", NO
1830 PRINT " "
1840 PRINT "YES: ", YES; "NO: ", NO
1850 PRINT " "
1860 PRINT "YES: ", YES; "NO: ", NO
1870 PRINT " "
1880 PRINT "YES: ", YES; "NO: ", NO
1890 PRINT " "
1900 PRINT "YES: ", YES; "NO: ", NO
1910 PRINT " "
1920 PRINT "YES: ", YES; "NO: ", NO
1930 PRINT " "
1940 PRINT "YES: ", YES; "NO: ", NO
1950 PRINT " "
1960 PRINT "YES: ", YES; "NO: ", NO
1970 PRINT " "
1980 PRINT "YES: ", YES; "NO: ", NO
1990 PRINT " "

```

[illegible]

ANIROOG

COMMODORE
64

Coming Soon CYBORG

Robots are the thing of science fiction, but in the future of the 21st century, they will be a reality. This is the story of a man who is transformed into a robot. He is a man who is transformed into a robot. He is a man who is transformed into a robot.

J.B. & B. in Two Dimensions £7.95

SPACE PILOT

Be the first to see the new space pilot. Be the first to see the new space pilot. Be the first to see the new space pilot. Be the first to see the new space pilot.

ZODIAC

An exciting new game of the zodiac. An exciting new game of the zodiac. An exciting new game of the zodiac. An exciting new game of the zodiac.

BONGO

Enjoy the fabulous world of the Bongo. Enjoy the fabulous world of the Bongo. Enjoy the fabulous world of the Bongo. Enjoy the fabulous world of the Bongo.

J.B. & B. in Two Dimensions £7.95

JUNGLE DRUMS

Join the action-packed world of the jungle drums. Join the action-packed world of the jungle drums. Join the action-packed world of the jungle drums. Join the action-packed world of the jungle drums.

J.B. & B. in Two Dimensions £7.95

3D TIME TRIP II

J.B. & B. in Two Dimensions £7.95

GALAXY

J.B. & B. in Two Dimensions £7.95

SCRAMBLE

J.B. & B. in Two Dimensions £7.95

ROND

J.B. & B. in Two Dimensions £7.95

MOON BUDDY

J.B. & B. in Two Dimensions £7.95

REPERT

J.B. & B. in Two Dimensions £7.95

THE DUNGEONS

J.B. & B. in Two Dimensions £7.95

DARK DUNGEONS

J.B. & B. in Two Dimensions £7.95

COSMIC COMMANDO

J.B. & B. in Two Dimensions £7.95

INDIAN ATTACK

J.B. & B. in Two Dimensions £7.95

STAR BASE DEFENCE

J.B. & B. in Two Dimensions £7.95

Trade Enquiries
29 WEST HILL, DARTFORD, KENT (SS20) 02613-1
Mail Order
8 HIGH STREET, HORLEY, SURREY
24 HOUR CREDIT CARD SALES HORLEY (0256) 6083
PAYMENT BY CHEQUE, P.O. ORDER, VISA
50p POST & PACKAGING

AGF

PROGRAMMABLE JOYSTICK INTERFACE

for
Spectrum
or **ZX81**

**MICRODRIVE
COMPATIBLE**

ONLY
£6.95
+P&P

AGF PROGRAMMABLE INTERFACE

Designed to be the only first hardware programmable joystick interface that provides all the features associated with such a design.

You can use any AGF-compatible joystick controller with any software for your Spectrum or ZX81, and just choose which joystick option.

Movement of the joystick is recognised by the microprocessor which then is provided the appropriate control data, and also checks for any other microprocessor response to that movement. The hardware programmable design means you can provide any joystick methods, from BASIC and Machine Code.

Eight directional movements, with or without the fire button being pressed, can be achieved by only programming the left, right, up, down and fire keys required by the game.

Programming is achieved by a flashlight code, which is looked up on the Programming Chart supplied. For each direction and firing button. Where necessary you then add a code on a pair of leads which are etched onto approximately numbered strips on the interface.

Once configured this can be switched onto a Quick Reference Programming Card for checking with the game. As the programming is done by jump digitisation the interface can be conveniently used when not switched on.

The joystick accepts fully featured and can be used discontinuously with the joystick.

An LED and two expansion connector areas there is an LED to indicate the interface to connect other peripherals.

AGF A novel design incorporating new design and the AGF Programmable Joystick works with the new Spectrum II and "Game Boy" format.



KEY FEATURES

- Programmable design gives TOTAL software support.
- Joystick, Atari, Competition, Pac, War, Starfighter, Quick Shot, La Strada etc.
- Eight expansion connectors for all other interfaces.
- Free design program and instructions.

PACKAGE CONTENTS SUPPLIED

- Programmable Interface Module as illustrated, complete with design program may be used.
- Self-reference programming card (includes how to define which key is controlled by UP, DOWN, LEFT, RIGHT and FIRE).



- One pack of ten Quick Reference Programming Cards for comparison making to your game requirements.



- 12 detailed games and full written instructions.

**ONLY
16.95
+P&P**



Quickshot II JOYSTICK

NEW IMPROVED GRIP - BUILT IN STABILIZING SUCTION CUPS

TRIGGER FIRE BUTTON - RAPID AUTO FIRE SWITCH - TOP FIRE-BUTTON

FROM: MRUMISMIS

ADDRESS

SEND C.W.D. (NO STAMP NEEDED TO AGF HARDWARE, DEPT. HW

FREEPORT, BOGNOR REGIS, WEST SUSSEX, PO22 6RN

QTY	ITEM	ITEM PRICE	TOTAL
	PROGRAMMABLE INTERFACE	17.95	
	JOYSTICK (2)	17.95	
	PACK(10) QUICK REFERENCE CARDS	1.00	
2000 <input type="checkbox"/> ZX SPECTRUM <input type="checkbox"/> Please tick		FINAL TOTAL	
DEALER EXPENSES WELCOME		EXPORT PRICES ON APPLICATION	



**Mr.
Chip**

SOFTWARE



DEPT PCT., 9 CAROLINE ROAD, LLANDUDNO, GWYNEDD LL30 3BL TEL: 0492 79026

SPECTRUM PROGRAMS

Abstract

```

10 LET NAME= "JOHN DE WINTER DE WINTER DE WINTER"
20 FOR I=1 TO 100
30 PRINT "JOHN DE WINTER"
40 NEXT I
50 REM THE FOLLOWING STATEMENTS ARE THE SAME
60 REM THE SAME AS THE FIRST
70 REM THE SAME AS THE FIRST
80 REM THE SAME AS THE FIRST
90 REM THE SAME AS THE FIRST
100 REM THE SAME AS THE FIRST
110 REM THE SAME AS THE FIRST
120 REM THE SAME AS THE FIRST
130 REM THE SAME AS THE FIRST
140 REM THE SAME AS THE FIRST
150 REM THE SAME AS THE FIRST
160 REM THE SAME AS THE FIRST
170 REM THE SAME AS THE FIRST
180 REM THE SAME AS THE FIRST
190 REM THE SAME AS THE FIRST
200 REM THE SAME AS THE FIRST
210 REM THE SAME AS THE FIRST
220 REM THE SAME AS THE FIRST
230 REM THE SAME AS THE FIRST
240 REM THE SAME AS THE FIRST
250 REM THE SAME AS THE FIRST
260 REM THE SAME AS THE FIRST
270 REM THE SAME AS THE FIRST
280 REM THE SAME AS THE FIRST
290 REM THE SAME AS THE FIRST
300 REM THE SAME AS THE FIRST
310 REM THE SAME AS THE FIRST
320 REM THE SAME AS THE FIRST
330 REM THE SAME AS THE FIRST
340 REM THE SAME AS THE FIRST
350 REM THE SAME AS THE FIRST
360 REM THE SAME AS THE FIRST
370 REM THE SAME AS THE FIRST
380 REM THE SAME AS THE FIRST
390 REM THE SAME AS THE FIRST
400 REM THE SAME AS THE FIRST
410 REM THE SAME AS THE FIRST
420 REM THE SAME AS THE FIRST
430 REM THE SAME AS THE FIRST
440 REM THE SAME AS THE FIRST
450 REM THE SAME AS THE FIRST
460 REM THE SAME AS THE FIRST
470 REM THE SAME AS THE FIRST
480 REM THE SAME AS THE FIRST
490 REM THE SAME AS THE FIRST
500 REM THE SAME AS THE FIRST
510 REM THE SAME AS THE FIRST
520 REM THE SAME AS THE FIRST
530 REM THE SAME AS THE FIRST
540 REM THE SAME AS THE FIRST
550 REM THE SAME AS THE FIRST
560 REM THE SAME AS THE FIRST
570 REM THE SAME AS THE FIRST
580 REM THE SAME AS THE FIRST
590 REM THE SAME AS THE FIRST
600 REM THE SAME AS THE FIRST
610 REM THE SAME AS THE FIRST
620 REM THE SAME AS THE FIRST
630 REM THE SAME AS THE FIRST
640 REM THE SAME AS THE FIRST
650 REM THE SAME AS THE FIRST
660 REM THE SAME AS THE FIRST
670 REM THE SAME AS THE FIRST
680 REM THE SAME AS THE FIRST
690 REM THE SAME AS THE FIRST
700 REM THE SAME AS THE FIRST
710 REM THE SAME AS THE FIRST
720 REM THE SAME AS THE FIRST
730 REM THE SAME AS THE FIRST
740 REM THE SAME AS THE FIRST
750 REM THE SAME AS THE FIRST
760 REM THE SAME AS THE FIRST
770 REM THE SAME AS THE FIRST
780 REM THE SAME AS THE FIRST
790 REM THE SAME AS THE FIRST
800 REM THE SAME AS THE FIRST
810 REM THE SAME AS THE FIRST
820 REM THE SAME AS THE FIRST
830 REM THE SAME AS THE FIRST
840 REM THE SAME AS THE FIRST
850 REM THE SAME AS THE FIRST
860 REM THE SAME AS THE FIRST
870 REM THE SAME AS THE FIRST
880 REM THE SAME AS THE FIRST
890 REM THE SAME AS THE FIRST
900 REM THE SAME AS THE FIRST
910 REM THE SAME AS THE FIRST
920 REM THE SAME AS THE FIRST
930 REM THE SAME AS THE FIRST
940 REM THE SAME AS THE FIRST
950 REM THE SAME AS THE FIRST
960 REM THE SAME AS THE FIRST
970 REM THE SAME AS THE FIRST
980 REM THE SAME AS THE FIRST
990 REM THE SAME AS THE FIRST
1000 REM THE SAME AS THE FIRST

```



★14876124 CEDRIC (PART ONE)



Copyright © 2004 John Wiley & Sons, Ltd.

RODOLFO TELUS JOBS
WITH ANY GROUP
CAN SUPPLY OWN
BUSES E.G. CEDULA

Introduction



1998-1999

1. **THE FIRST PART** of the book is devoted to the study of the **history of the**

THE J. C. COLE LTD.
FLOOR 1

THESE

***Enter the wheeling & dealing world of money and superprofits: "BIG TIME" Can you outwit the astuteest power brokers of Crime? Find out more about Crime in this fun interactive game for the MSX, Spectrum!**
Excellent value at just £4.95.

[illegible]

A detailed map for efficient garden work is shown at Howard Gardener's Club in Washington for the Big Day, March 24-25.

Abstract

**12. Minnesota, Wood
Pewee,
Missouri:**

TI-99/4A TI-99/4A

HAVE YOU SEEN THESE GAMES YET?



Wissenschaftliche Mitarbeiterin 11. 09.
Anmeldung bis zum 05. 09. 2019. Bewerbungen
sowie Bewerbungsunterlagen sind bis zum 05. 09. 2019
bis zum 12. 09. 2019 gegen Gebühr bei:



The World's Greatest MARRIAGE 12-13
 I salute the champions of the MARRIAGE and
 present the Lady Kismet by my friend Bill and
 Barbara Kismet and company.

If you haven't yet seen our range of games and utilities for the Ti-99/4A, then perhaps it's about time you joined in the fun!

Our products are also available from such big
TEXAS retailers as Galaxy (Meadelton) — Parco
Electrica (Houston) — Blue Chip Computers
(Miami) and many more.

Send cheque or P.O. to
LANTERN SOFTWARE,
4 Hatherden Road, Barnstaple, East TN30 6DB
or fill in the form, ask us for our brochure or visit 2 months

THE FABULOUS CASSETTE

FROM **cascade**

VALUE that's
out of this world

50 GAMES ON ONE CASSETTE

COMPTON, C. 1973. *Journal of the American Water Resources Association* 9: 103-114.

ONLY
€9.95

By its membership in
the United Nations
and the Organization
for Economic
Cooperation and
Development, the
United States is
committed to
the principles of
democracy and
human rights.

October 1991. So will appear in reports of all news and the games will provide these facts of entertainment for all the people as a means of the quest of other.

**EXPRESS DELIVERY
CUTS IN HALF**

100

1000

100

²³ *Phosphorylation of Synaptic Vesicles and Mitochondria*, pp. 111–124. New York: Academic Press, 1977.

Please send me by return of post Certificate No. of £100
and have my name entered as a member of the

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

Abstract

100

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

[illegible]

Figure 1

100

Canada: Service Ltd
Suite 4, 1-3 Rivers Crescent, Monrovia
North Westwood, M6P 1B6, England
Telephone: (416) 291-1000

It was the best then...

Chess players with a 48K Epcor Linux will find this program ideal if they are short for a machine.

I have seen other cheap games for computers, but as far as I am concerned, this is the best so far, and should give hours of enjoyment to the whole family. ★★

core mathematics	80.0%
playwriting	80.0%
graphics	71.4%
visual communications	100.0%

[illegible]

...and now it's even better, with these new features:

- * Unique digital chess clock. Automatically records time taken by player and computer
- * On-screen indication of total possible moves.
- * Interrupt facility - forces computer to play current best move
- * Opening book of near 5,000 moves



FOR 406
SPECTRUM
ONLY

Masterchess – the game for the real player £6.95

Available from leading retailers
or direct from **Miller-Stephenson**
Manufacturing Company, 10 Miller-Steele
Blvd., Indianapolis, Indiana 46219

[illegible]

MIKRO-GEN

[Home](#)
[About Us](#)
[Contact Us](#)
[Privacy Policy](#)
[Terms of Service](#)

WE GLUG

NEW ORIGINAL GAMES FOR THE COMMODORE 64

● **NIGHTMARE PARK** is in fact a programme of 14 games. The idea of the user sub-games many points on people enjoying through the whole of the computer world. These sub-games are also an opportunity to combine the whole world of the computer world into one game. The idea of the user sub-games many points on people enjoying through the whole of the computer world. These sub-games are also an opportunity to combine the whole world of the computer world into one game.

PRICE £7.99

● **DOTS & BOXES** is a strategic game where the user and the computer take turns in completing boxes by drawing a line between two dots. The first of the game is to draw the most boxes while fully enclosing the number of boxes given only to the computer.

PRICE £5.95

● **HEXAPAWN** is a strategic game where the user and the computer take turns in completing boxes by drawing a line between two dots. The first of the game is to draw the most boxes while fully enclosing the number of boxes given only to the computer.

PRICE £5.95

● **CHOPPER LAND** is a strategic game where the user and the computer take turns in completing boxes by drawing a line between two dots. The first of the game is to draw the most boxes while fully enclosing the number of boxes given only to the computer.

PRICE £7.99

Send Cheques/PC:
A.R. SOFTWARE
86 Avonbrae Crescent
Hamilton, Scotland
Tel: 0698 282000

**DEALER ENQUIRIES
WELCOME**

2 Vouchers

Collect this voucher and enter it in 13 days after the first of each issue of the magazine. Collect this voucher and enter it in 13 days after the first of each issue of the magazine. Collect this voucher and enter it in 13 days after the first of each issue of the magazine.

MAIL ORDER PROTECTION SCHEME

If you order goods from Mail Order Advertisers in this magazine and pay by post in advance of delivery, this publication will consider you for compensation if the advertiser should become insolvent or bankrupt, provided:

1. You have not received the goods or had your money returned; and
2. You notify the publisher of this publication explaining the position not earlier than 28 days from the day you sent your order and not later than 2 months from that day.

Please do not wait until the last moment to inform us when you write, we will tell you how to make your claim and what evidence of payment is required.

We guarantee to meet claims from readers made in accordance with the above procedure as soon as possible after the advertiser has been declared bankrupt or insolvent to a limit of £1,000 per annum for any one advertiser, as affected, and up to £5,000 p.a. in respect of all insolvent advertisers. Claims may be paid for higher amounts, or when the above procedure have not been complied with, at the discretion of this publication, but we do not guarantee to do so in view of the need to set some limit to this commitment and to learn quickly of readers' difficulties.

This guarantee covers only advance payment sent in direct response to an advertisement in this magazine (not, for example, payments made in response to catalogues, etc. received as a result of answering such advertisements).

CLASSIFIED ADVERTISEMENTS ARE EXCLUDED.

GLUG

LETTERS

**How many
Micro-
drives?**

Do I hold a world record?
Four months ago, I sent my
name to British Telecom to
have it added to their
Miniserver waiting list.
Within the past two weeks, I
have been into three other
lines for the Miniserver.

If the company I will be
sending out my new letters
knowing "I am pleased to
say that I am now in a
position to offer you 200
Miniservers and letters."

Figure 1. Schematic representation of the experimental design. The subjects were divided into two groups: the control group and the experimental group. The control group received a standard diet, while the experimental group received a diet supplemented with 10% of the total energy from fat. The subjects were divided into two subgroups: the control group and the experimental group. The control group received a standard diet, while the experimental group received a diet supplemented with 10% of the total energy from fat. The subjects were divided into two subgroups: the control group and the experimental group. The control group received a standard diet, while the experimental group received a diet supplemented with 10% of the total energy from fat.

A slender specimen, about 1.8 g, in month with conspicuous depigmentation of Caudal fin, dark spot on the flanks above the anal fin, dorsal fin 2 rays, very small scales (Table 1).

Whodunnit

Part of the following issue was donated from Mrs. Frederick's Union program for the dead in the 1940's.

SUPPLEMENTARY NOTE
 TO THE I. & O. REPORT
 FOR 1994

	Prevalence	Incidence	Prevalence	Incidence
Chronic disease	High	Low	Low	High
Acute disease	Low	High	High	Low

Complaints, and on and on

There are few complaints I want to make about the *home computer industry* the great "junk" computer games, and manufacturers' advertisements.

To make my first point, my two dogs and I have brought water on parties more than once. Spontaneous water parties. On more than one occasion we have had to return them to the store because of leaks in their Bowlers. In a lot of cases, 20 minutes from the nearest store, so it's not fun having to go all the way down the highway.

I'm amazed to say the least, as the three three-called games resulted in three in the first place. Higher control needs to be exercised here.

My second point arose following my purchase of the Scope computer graphics language program. Although IBM's advertisement is perfect in stating that it is fully compatible with BASIC, the compiled program can only be run with Scope present in high memory. No my thought of producing a program for commercial sale has to be lost again.

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2
--	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	---

Send your letter to Letters, Home Computing Weekly, No.1 Golden Square, London W1R 3AB. Don't forget to name your computer — the best letter could win £5-worth of software. Got a problem with your micro? We'll soon be starting a queries page, so send your technical questions to Queries at the above address.



I know a lot of programming in BASIC on my Spectrum. I was looking forward to writing games with arseholes in the machine and without all the bother. I was more than disappointed with my own programming to leave me stuck with a bloody machine that is no substitute for the real thing.

It is noted that compared with the other two cases, lighters loaded in the middle of the vessel are more stable.

Dr. William C. Cline

Q&A's marketing director Graham Jones and Q&A's Williams were to follow Pinsky to the office of Reps. or on one way will send him a listing of the necessary equipment to get just what he needs on board.

“We would wish that [the programs] were coordinated better. That the great big federal system for the marketing work.”

For employment, the firm was not successful. In 1990, the EEP fund is estimated to have grown to approximately 1,000 employees.

The offer was open to any other non-union employees employed by the company who wished to join a union for the IUP's same work and asked to certify that a union has been chosen.

These data, an experiment and programmer could draw about 500 to get an idea about the needed, said the

128-bit data bus design, which costs \$17.95 and includes 17 new instructions, will compile programs only machine code and improve their speed by 10 per cent on average.

ADP as ad	IL-4 Cytokine
Perox. - AD	Interleukin
Adenosine nucleot.	Amino acid

Brush, bluish

I bought a Commodore 64 in a Christmas present and did not know how to program, was to buy all the programs suggested I used first on the magazine's shelf I received 10 magazines in

These results are not surprising, given that the model is based on the assumption that the system is in a steady state. The model is not able to capture the transient behavior of the system, which is a limitation of the model.

I learned a lot, along with the kids, and I became an addict to "our" life. However, only one of my daughters — they were named after KT — has given me good memories.

It's yours. *Home Computing Weekly* — easy to read, big free BBT programs, very reasonable price, quality paper, interesting articles and so on.

Having reported Extended BASIC, part 1 and 2, I now look forward to the advanced game programs made possible, not to mention the ideas after that.

Thank you for reference for people like me, improved without presenting additional burdens, or extra steps. My short story goes with me to A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z.

[illegible]

Commodity 64 every day like to have a little more jumping at commodity 64.500 on contract, with the contract 2.5. Home Commodity 64.500 and the market. David says the 64.500 is not a good one for the 64.500.

Speedy Summer

In HCV 45 you created a program for the Cams module to fill about running cam. by Tony Kelly. In line 50 it used READ to when I should have read READ C. Apart from that I thoroughly enjoyed the game, especially when I succeeded to top

HCW is one of the best magazines out there. It was the first issue I bought and I thought it was super. I will be looking forward to trying it on the future. Daniel LeVine, aged 11, Wood, Maryland

**CAN YOU
HOLD?**

I thought a Christmas Ad in *Crash* and am you going to know if I am interested in buying computers with the extremely handicapped? I wonder if any of your readers have any experience in this area.

There also seems to be very little software for use with slow learning people. Any way I would welcome any help or ideas.

Franklin, Clarence, 11744
 Myrtle Road, Huntington,
 Florida 32206-1604 P.O. Box 2
 3342 001

Minnesota schools get \$ millions for software

California is *the* only technologically aware state in the country, as far as education goes. In a recent move, the Minnesota legislature passed a \$1.1 million Technology and Education Improvement Act to basically force school districts to make the best possible use of new technology.

One goal of the act is to allow a local district to purchase high quality software and to have schools develop plans to use it, as well as train staff in installing and implementing high-tech applications. The act requires each of the state's school districts to develop what they call a technology infusion plan. The plan must be developed in co-operation with local advisory committees composed of community members, staff, and parents. No director will ever write more than \$500,000 in aid to the creation of these local plans.

Each plan must meet seven strict criteria in order to be acceptable. Of the seven factors, the one I can best appreciate requires the local district to explain how their plan to implement the new technology will be applied to people of all ages, including women, minorities, and the disabled. All the criteria are intended to put the co-operation and participation of the local community.

What is equally interesting is that this is a software funding program only. How the district acquires the computers and peripherals is left up to them. Because of the legislature's decision plan, obtaining the hardware is not seen as much of a problem. It guarantees that many local governments now have a chance to not expense for their equipment for very little at the top of advertising fees.

In fact, the provisions for getting software approved for sale to the Minnesota school districts under this program is quite simple. A state, along with any other customer like governments, for instance, should be sent to the Office of the Minnesota Department of Education, Capital Square Building, 550 Cedar St. Paul, Minnesota 55455. If you are interested in this software and want to question the funding directly, you can call him on (612) 296-6267.

Although there are seven on an example of what can be done to promote computer education in school systems, it is certainly clear that many schools will want things said. My many districts in Minnesota, it is literally forced upon them. It is also clear that, in this respect at least, we still have much to learn from the British model.



As promised, here is some good news for TI-89/84 owners: There are quite a few vendors who plan to continue to market support products for the forthcoming machines. It is sort of like a good news — bad news only, thing.

The good news is that there will be support for many more to come. From a variety of sources, the bad news is that it will come as late as good as when the machine was in rampant production — that is, to usually the rate where new products is discontinued. Never mind. There is still an estimated nine thousand approximately two million people over here intent to use exactly an exacting number, so support will certainly not disappear overnight. Here are some of the more interesting products I know about for the time being.

First of all, a Texas called CorComp of Laguna Hills, California, (714) 931-8111 is now developing a microcomputer that will be compatible with all TI-89/84. There is at present no report for the new unit, but it is expected to come. It will have 64K of RAM, a built-in speech synthesizer, and built-in 80286. It is supposed to sell for less than \$500 and have an optional disk drive. CorComp is a bit without previous experience with the TI. It previously sold 10K RAM boards and 8K-20K boards for the TI expansion box. CorComp is also planning to produce smaller versions of the TI expansion for 8-bit disk drives that will accept the various boards made for the expansion box.

If you want to buy a disk drive unit for your TI, from someone other than TI, you are limited to the product made by Percom Corporation, of Dallas, Texas. Percom makes drives, and good ones at that, for just about every home computer, so this is no fly-

by-night operation. Their TI-89-51 drive costs a suggested list of \$449 which includes the controller card. Percom has about 600 of these drives on hand worldwide at the present time.

It also makes a second drive for the TI called the TI-89-A2 which lists for \$599. At the time of writing, it isn't clear if Percom will continue to manufacture these units. It all hangs on demand.

A company called Myer of Basking Ridge, New Jersey, is planning to continue to manufacture as less of 16, 48-, and 128 megabyte hard disk drives for the TI. This company has been making these units since earlier this year and apparently is selling many of them in South America where the TI is used mostly as a business computer.

Any number of small companies are planning to continue making cards and accessories to plug into the expansion box. These firms include A/D Electronics, of Sacramento, and Dory Systems of Glen Cove, New York. Newport Controls of Bakers, California, still plans to market its \$20 control. See Home Computer Magazine of Eugene Oregon is still going strong, and has published a directory of third party hardware products as of September issue.

Of course, more than hardware is the software area. While many manufacturers are frantically offering their hardware products in retail outlets in favor of doing so by mail order, the software vendors are unsure of which way to go.

TI plans to sell off all its remaining software. The publisher of *Wet Tech* that will allow the third party software maker to make money. Sierra On-Line Software is just as sure. It took them months to complete successful negotiations. In all different TI is manufacturing and distributing game cartridges for a disk. Sierra would receive royalties. Of the 16 games TI planned to produce and sell in the summer, one are already being produced (these being *Demolition* and *Croquet*) and are therefore likely to be released, although who knows for how long.

TI has not had an entire year about missing the other half, and Sierra needs to find that if TI sends the games back that it will not market the games either. It means that their former customers also must retail outlets would rather use their shelf space for software other than that designed to run on the TI.

One possible reason for this is the revenue derived by Percom and mentioned in this column a while back. Using the Percom system, children can download software into reusable cartridges (these being the programs over the phone deal, thus decreasing stock requirements).

Another problem facing the software manufacturers is that most of them are not set up to sell directly to the public, so if they decide to go the mail order route, they would have to construct their first market. This could be risky as too one knows how to market what can be sold to retail. In order to do an effective mail order business, a few months a good direct mailing list. The best source of such is the magazine *Young Business* which, which has a mailing list almost every owner of a TI-89/84. What for TI does not offer this list for sale at any price, not even the more TI user group, International 89 Users Group, of Berkeley, California.

One thing is for sure — I'll be willing to bet money that Allen is very upset over TI's rapid departure from the field. Percom has a lot. Allen has already produced about a quarter of a million game cartridges for the TI under its new software company, Atomic! Inc. Allen is sure that now would be the harrowing time Allen could offer all problems of the last year or so. Oh well, as we said the business was over.

And Sierra shows firm will appreciate that coming to potential software writers. Let's be careful and there. See you next week.

Get it right again — see you next week

Real firm
Fairfield, California

[illegible]

In the interests of security, calls without appointments or personal messages will not be answered.

THE HANSEN (1993) EQUATION



SPECTRUM PROGRAM

There's a "quicker" game for either model of the Spectrum. It has a twofold result and even used to attract any number of players as they chose between them.

3-12 prepare for game
34-36 randomize panel, move
 random title
200-220 check score against last
 time
2400-2460 print reports
2500-2570 edit game
2600-2670 instructions
2700-2760 grade log
2800-2860 grade scores
2900-2970 credits

Are you fast on the button?

Test your reaction time with David Hughes' program for either model of the Spectrum

1000

p 81-82 page:
 8-9 left total story
 1 total used
 1st character rounded time
 2nd character
 3rd character



```

1 BEGIN REACTION
2 END C.D. RUCHES
3 DO SUB RUCHES
4   LET A1=10.000
5   DO SUB RUCHES
6     GO TO 1030
7     PRINT AT 0.0, "BEST TIME =
8
9     FOR B=0 TO 31
10      PRINT AT 1.0, "B=
11    NEXT B
12  DO SUB RUCHES
13    FOR K=1 TO 6
14      LET C=0
15      LET P=11.00000000
16      PRINT AT 10.00, "
17    NEXT P
18    LET C=11.000
19    PRINT AT 00.0, 00.00
20    IF INKEY="B" AND 01.000 TH
21  DO TO 1000
22  IF INKEY="B" THEN GO TO 10
23
24  IF INKEY="C" THEN GO TO

```

```

0000 00 0=1 THEN LET S=0:G=1
0001 01 0=0 THEN LET S=0:G=1
0002 02 0=3 THEN LET S=0:G=1
0003 03 0=4 THEN LET S=0:G=1
0004 04 0=0 THEN LET S=0:G=1
0005 05 PRINT AT 10,20,-
0006
0007 BRUSH 55
0008 HIDE 1
0009 LET I=0:J=0:K=0:G=0
0010 PRINT AT 10,10,- TOTAL TIM
0011
0012 PRINT AT 10,20, FLASH 1,1
0013 GO SUB 8000
0014 PRINT AT 10,20,-
0015 BRUSH 100 FLASH 0
0016 IF 1: THEN LET I=1: FROM
0017 10,10,- NEW DESI TIME- PAUL
0018
0019 GO TO 8000
0020 GO TO 1000
0021 PRINT AT 10,20, FLASH 1,"TO
0022 0:0000"
0023 PRINT AT 10,20,"TRY AGAIN"
0024 PAUSE 100 PRINT AT 10,20,-
0025
0026 PRINT AT 10,20,"ACOSTELLO"
0027 PAUSE 100
0028 GO TO 0
0029 PRINT AT 01,0,- PRESS '5' 0
0030 0:0000:0000-
0031 IF INKEYS="1" OR INKEYS="5"
0032 THEN PRINT AT 10,20,- ".AT
0033 01,0."
0034 GO TO 1000
0035 IF INKEYS="5" OR INKEYS="1"
0036 THEN GO 8000

```

[illegible]

SPECTRUM PROGRAM

```

8000 PLOTT 0
8005 PLOTON
9000 GOSUB 10000
9010 FOR J=0 TO 7: READ B: POKB
10000 DATA 0,1,0,0,0,0,0,0
9015 DATA 04,05,107,200,107,00,0
9020 FOR J=0 TO 7: READ B: POKB
10010 DATA 0,1,0,0,0,0,0,0
9025 DATA 0,0,000,000,000,0,0,0
9030 RETURN
    
```

BEST TIME = 0.0030

SUPERSONIC--

LEIGHTING---

FAST-----

PRETTY QUICK

AVERAGE----- 0.07461

LAME-----

SLOW DOWN-- ←

SHRIL-----

WAKE UP !--- TOTAL TIME



What the screen shows if you're not fast enough!

C&R

COMPUTER SALES

33 BURTON RD, LINCOLN LN1 3JY
(0532) 26699

Atol 10000	£151.00	VIO 20	£54.00
Atol 10000L	£227.40	CRM 00	£217.00
Atol 10000 (including programming kit)	£284.00	Org 400	£133.00
Atol 20000 (with Atol)		Atol MB 100	£142.00
Atol 20000 (with Atol)		Atol VIO 20000 (Basic)	
Accessories prices...	£89.00	Keyboard (enhanced)	£70.00

Please send large SAE for list of software and peripherals starting type of hardware you use

FREE Postage & Packing (UK only)

(Please send cheque payable to C&R computers with order. Please allow 21 days for delivery. Software available for Spectrum, BBC, Oregon.

SPEED READ PROGRAM

for any Spectrum from

QUALTECH SOFTWARE

The Speed Reading Program is a series of 10 lessons, and a reading manual, designed to train you to greatly increase your reading speed and comprehension.

FOR ONLY £12.95 (including Program, Manual and postage) **YOU COULD LEARN TO READ MUCH MORE IN MUCH LESS TIME**

To get your Speed Reading program, send a Cheque/PO for £12.95 to:

QUALTECH SOFTWARE,

24 Claypole Rd, Hyson Green, Nottingham.

(Cheque/PO payable to Qualtech Software)

It's easy to complain about advertisements.

**The Advertising Standards Authority.
If an advertisement is wrong, we're here to put it right.**

ASA Ltd, One Horse Dreyton Place, London WC2E 7NU

THE Ω MEGA RUN.... is here

ANDROID
INVADERS

PICTURE
PUZZLES

LUNAR
RESCUE

BIRDS
OF PREY

THUNDERHAWK

RIDDLE OF
THE SPHINX

LIBERATOR

HOPPING
MAD

Golf



Blast
the
Alberton
Birdcraft from the
skies!
SAVE YOUR PLANET!
Spectrum 48K
Special compatible
full colour
epic

You
are pitched
against the evil
creaky who are set
to destroy your race.
Multiple levels of fast action
bring you to the command
centre of the Battle
Reel. Can you
finish the
job?



LYVERSOF

THUNDERHAWK (48K Spectrum)

Golf (48K Spectrum)

Voyager (VIC 20, 8 or 16K)

Liberator (16K/48K Spectrum)

Picture Puzzle (Dragon 32)

Riddle of the Sphinx (VIC 20, 8 or 16K)

Bird of Prey (Basic VIC 20)

Hopping Mad (VIC 20, 3.5K Exp.)

all at
£5.98
each

Please debit my Access Barclaycard (delete as necessary)

CARD NUMBER

I enclose cheque/PO for £

Name

Address

LYVERSOF, 64 LIME ST., LIVERPOOL L4 1JH

Tel: 051-708 7100

Charting the scores

Why not have a chart showing readers' highest scores on games? Or even a small list of your highest scores, with the reader's name, and get these posted in a photograph of their scores. At the end of the year you could compile a chart showing the highest scores for each game you listed in a table (and include how to best achieve scores in these past 12 months).

Ian Richardson, Swindon

A good idea, but such a chart would be difficult. For example, it's not unusual for computer users to find one program. They could find a high score for a game.

What do you think? I'm a game addict!

Seg's counsel over Texas

As the risk of receiving the on-going correspondence diminishes — in other words, when the wheel finally stops — I feel obliged to reply to previous posts about the situation between H&W & Co.

We seem to imply that I am disappointed with my TI 99/4A. The issue is to provide because it is not a good computer. That I am unhappy for Texas Instruments to use the TI may be commercially and financially expedient, but what a waste of potential! Having your heads in clouds, TI.

Perhaps I am unfair as TI credit. I have not yet ever had delayed the computer to the death against the hundreds of astonished computer users and the like. On the other hand, there are quite a few Texas users who, on discovering that TI H&W & Co. did not send their money against the commercial quality of H&W, have already made their own TI. This, presumably.

Now, I use my TI almost exclusively for programming. In fact, I have a huge on-line library of software. Before you screen "Apple II" let me explain being a member of the Texas millionaires club. I don't have a great deal of money left over in the end of the month, and what little I have gets away from me before I can spend it. In fact, I've already spent everything.

As for the disappointing price (see H&W), there can be no defence here.

Send your letter to Letters, Home Computing Weekly, No. 1 Golden Square, London W1R 3AB. Don't forget to name your computer — the best letter could win £5-worth of software. Got a problem with your micro? We'll soon be starting a queries page, so send your technical questions to Queries at the above address



For example, I recently managed to acquire Extended BASIC and a speech card for the price of a small mental aid I am delighted with both. However, this is not the case. H&W has not even done a TI 99/4A in the computer press! Do you know there are no big-name home computers with speech — provided ones, including BBC and Electron as well?

I also recently read a couple of speech-related features in a computing magazine which shall remain unnamed. Was the last speech-related article for any computer pure nonsense? Didn't we fight it once?

I am big name, I'll tell you. Graham, Walsley, West Yorks

We have received a lot of letters about Texas Instruments making the production of the TI 99/4A and we are putting a small section in them. However, most say roughly the same thing — how disappointed TI users are and what a fine machine it really is. Please don't let us only if you have something personally to say. And, as with all letters for publication, keep it brief!

TI: I'm not changing

Dear Sirs, as my friend's letter in H&W No. 1, we are a good owner of a TI 99/4A and are disturbed by some developments. It is now possible to buy a TI 99/4A for about half the cost I paid the mine. This fact alone should make it popular with a large, financially public of it. Without the quality and solid support it receives.

However, it is not so much of it that the software is largely good for the TI has become more available in recent months? It would appear so.

Owners are only hope that these magazines help

to H&W) and the big-name dealers and software houses that support the TI continue to invest for a long time to come, as I for one am in no hurry to change to a free lunch business system.

We doubt the regional will continue for some time but if you want the letter I would be interested to hear the response, not from other TI users' thoughts in this situation, but also readers and software owners. Stuart Gilman, Glasgow

Zap-free games

Regarding the letter (H&W 41) entitled "Zap-free games" — and elsewhere? I would like to point out that there are lots of other games available for all machines that do not require zapping. Eg. Pac-Man or Breakout.

Secondly, if someone (perhaps he was going to kill someone, and someone thinks a game of Space Invaders is his last, he will probably go down and release the ship or land on the game.

James Irvine, Cuckham, Surrey

Bring back our TI

I am writing to express to my friends a letter in H&W 42 concerning the withdrawal from the market of the TI 99/4A.

My friend and I bought our TI in October from a large stationery shop, many miles — which still remains unopened, much to my regret — because we thought it would be a good investment. However, we had no idea of what TI needed to do. However, we why the situation was so regret for us to buy the TI 99/4A, no other choice.

I have been planning buying the H&W claimants to be able doing my own programming, in the situation of the computer being situated when I'm capable of using them is negligible.

I would like to ask this of all shop magazines and owners of the home computer market, please support the TI and its much sold throughout. And, TI, please bring our computer back.

Thank you, H&W, for supporting us more and supporting TI owners.

Ms. J. Harris, Walsley, W. Yorks

Although it will be tricky typing in all the data correctly, my program will be worth the trouble.

It shows a detailed map of Great Britain and lists and shows what really can be done with the definite characters of the VIC-20, unreserved.

How it works

- 88 letters & digits to produce 256 data characters
- 88 reads the data and POKEs it into the character set
- 1000-1000 changes screen colour and prints the map onto the screen

Your country on your VIC

Typing in all those figures looks daunting, but you'll be rewarded by an accurate map of Great Britain and Eire.

More on characters

It would be quite easy to use the idea on the BBC micro using its ROM character set. The Atari should support it too. It would also work on the Spectrum without extensive changes.

Obviously it will convert to other Commodore machines by changing the sets of the character or POKE number which on the VIC is 1000.



Texas TI99/4A



ARENA II

EXT BASIC

£4.95

Search war! Defend your ship from attacking ships. Battle your way in Area 1 (land) you must clear out a landing strip. Command from ship through telescopes, radar, sonar. Laser cannon. Depth in Control. Search war! This game has it all.

PIRATALL - CURBIS

EXT BASIC

£4.95

Two games in one tape. A complete puzzle machine. All the excitement of a board game. Curbis. A test of skill and memory for those who like a challenge.

PORTWINE KNOCK

BASIC

£4.95

On YOUR END! Save the boat. Navigate through dense enemy side. Port wine is, interestingly, a port appropriate. How you're no day it before the port wine does the port! Note the reputation like (with ball). It is not easy! & it's worth the effort. Dealer inquiries welcome.

Send cheque or £10 to Liquid Games, Curbis post free
14 Bridgwood, Brookside, TELFORD, Shropshire TF9 1LX

Scientific Software BBC Model B

Predict the future with
Computerised Nostradamus
Crystal £3.45

Improve your spelling powers
Word game £3.45

Hot Line 01-688 0144

SCIENTIFIC SOFTWARE

Old Loom House, Back Church Lane,
London E1 1LS

**It's easy
to complain
about
advertisements.**

The Advertising Standards Authority. ✓
If an advertisement is wrong, we're here to put it right.
ASA Ltd, One Market Tower, London EC2M 3HQ

NATIONWIDE SHOPS & DEALERS

BEDFORDSHIRE

SOFTWARE CENTRE

Computer software and accessories.
Large S.A.B. facilities.
824 Brookham Road, Bedford
Tel Bedford 44733

CORNWALL

FAL-SOFT Computers

8th, Looe & Ayrish
Falmouth, Cornwall
Tel: 0508 314881
We stock a wide range of
software, hardware and accessories
for all major systems. We also offer
training courses in all areas.

ESSEX

SOFTWARE 10% OFF-ERP

Over 800 titles. Commodore Spectrum
BBC Mac. Amstrad
Value for money. 10% discount for all
BASIC 98, 99, Longbridge Rd,
Barking, Essex
Tel: 020 554 8379 for prices list

BBC & COMMODORE 40

SPECTRUM & DRAGON 32
Extensive range of software/
hardware/facilities always in stock.
877 BARKY SOFTWARE PRODUCTIONS
877 Barkby Avenue, Thurrock
Essex Tel: 0470 43344

LONDON

DAVID BRACK SOFTWARE

Over 140 pages for the Commodore and
BBC for the 100, 50, 40, 30, 20, 10, 5, 4, 3, 2, 1, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017, 1018, 1019, 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1038, 1039, 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1050, 1051, 1052, 1053, 1054, 1055, 1056, 1057, 1058, 1059, 1060, 1061, 1062, 1063, 1064, 1065, 1066, 1067, 1068, 1069, 1070, 1071, 1072, 1073, 1074, 1075, 1076, 1077, 1078, 1079, 1080, 1081, 1082, 1083, 1084, 1085, 1086, 1087, 1088, 1089, 1090, 1091, 1092, 1093, 1094, 1095, 1096, 1097, 1098, 1099, 1100, 1101, 1102, 1103, 1104, 1105, 1106, 1107, 1108, 1109, 1110, 1111, 1112, 1113, 1114, 1115, 1116, 1117, 1118, 1119, 1120, 1121, 1122, 1123, 1124, 1125, 1126, 1127, 1128, 1129, 1130, 1131, 1132, 1133, 1134, 1135, 1136, 1137, 1138, 1139, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1150, 1151, 1152, 1153, 1154, 1155, 1156, 1157, 1158, 1159, 1160, 1161, 1162, 1163, 1164, 1165, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1177, 1178, 1179, 1180, 1181, 1182, 1183, 1184, 1185, 1186, 1187, 1188, 1189, 1190, 1191, 1192, 1193, 1194, 1195, 1196, 1197, 1198, 1199, 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1224, 1225, 1226, 1227, 1228, 1229, 1230, 1231, 1232, 1233, 1234, 1235, 1236, 1237, 1238, 1239, 1240, 1241, 1242, 1243, 1244, 1245, 1246, 1247, 1248, 1249, 1250, 1251, 1252, 1253, 1254, 1255, 1256, 1257, 1258, 1259, 1260, 1261, 1262, 1263, 1264, 1265, 1266, 1267, 1268, 1269, 1270, 1271, 1272, 1273, 1274, 1275, 1276, 1277, 1278, 1279, 1280, 1281, 1282, 1283, 1284, 1285, 1286, 1287, 1288, 1289, 1290, 1291, 1292, 1293, 1294, 1295, 1296, 1297, 1298, 1299, 1300, 1301, 1302, 1303, 1304, 1305, 1306, 1307, 1308, 1309, 1310, 1311, 1312, 1313, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1324, 1325, 1326, 1327, 1328, 1329, 1330, 1331, 1332, 1333, 1334, 1335, 1336, 1337, 1338, 1339, 1340, 1341, 1342, 1343, 1344, 1345, 1346, 1347, 1348, 1349, 1350, 1351, 1352, 1353, 1354, 1355, 1356, 1357, 1358, 1359, 1360, 1361, 1362, 1363, 1364, 1365, 1366, 1367, 1368, 1369, 1370, 1371, 1372, 1373, 1374, 1375, 1376, 1377, 1378, 1379, 1380, 1381, 1382, 1383, 1384, 1385, 1386, 1387, 1388, 1389, 1390, 1391, 1392, 1393, 1394, 1395, 1396, 1397, 1398, 1399, 1400, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1415, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423, 1424, 1425, 1426, 1427, 1428, 1429, 1430, 1431, 1432, 1433, 1434, 1435, 1436, 1437, 1438, 1439, 1440, 1441, 1442, 1443, 1444, 1445, 1446, 1447, 1448, 1449, 1450, 1451, 1452, 1453, 1454, 1455, 1456, 1457, 1458, 1459, 1460, 1461, 1462, 1463, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1477, 1478, 1479, 1480, 1481, 1482, 1483, 1484, 1485, 1486, 1487, 1488, 1489, 1490, 1491, 1492, 1493, 1494, 1495, 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1507, 1508, 1509, 1510, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1518, 1519, 1520, 1521, 1522, 1523, 1524, 1525, 1526, 1527, 1528, 1529, 1530, 1531, 1532, 1533, 1534, 1535, 1536, 1537, 1538, 1539, 1540, 1541, 1542, 1543, 1544, 1545, 1546, 1547, 1548, 1549, 1550, 1551, 1552, 1553, 1554, 1555, 1556, 1557, 1558, 1559, 1560, 1561, 1562, 1563, 1564, 1565, 1566, 1567, 1568, 1569, 1570, 1571, 1572, 1573, 1574, 1575, 1576, 1577, 1578, 1579, 1580, 1581, 1582, 1583, 1584, 1585, 1586, 1587, 1588, 1589, 1590, 1591, 1592, 1593, 1594, 1595, 1596, 1597, 1598, 1599, 1600, 1601, 1602, 1603, 1604, 1605, 1606, 1607, 1608, 1609, 1610, 1611, 1612, 1613, 1614, 1615, 1616, 1617, 1618, 1619, 1620, 1621, 1622, 1623, 1624, 1625, 1626, 1627, 1628, 1629, 1630, 1631, 1632, 1633, 1634, 1635, 1636, 1637, 1638, 1639, 1640, 1641, 1642, 1643, 1644, 1645, 1646, 1647, 1648, 1649, 1650, 1651, 1652, 1653, 1654, 1655, 1656, 1657, 1658, 1659, 1660, 1661, 1662, 1663, 1664, 1665, 1666, 1667, 1668, 1669, 1670, 1671, 1672, 1673, 1674, 1675, 1676, 1677, 1678, 1679, 1680, 1681, 1682, 1683, 1684, 1685, 1686, 1687, 1688, 1689, 1690, 1691, 1692, 1693, 1694, 1695, 1696, 1697, 1698, 1699, 1700, 1701, 1702, 1703, 1704, 1705, 1706, 1707, 1708, 1709, 1710, 1711, 1712, 1713, 1714, 1715, 1716, 1717, 1718, 1719, 1720, 1721, 1722, 1723, 1724, 1725, 1726, 1727, 1728, 1729, 1730, 1731, 1732, 1733, 1734, 1735, 1736, 1737, 1738, 1739, 1740, 1741, 1742, 1743, 1744, 1745, 1746, 1747, 1748, 1749, 1750, 1751, 1752, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1760, 1761, 1762, 1763, 1764, 1765, 1766, 1767, 1768, 1769, 1770, 1771, 1772, 1773, 1774, 1775, 1776, 1777, 1778, 1779, 1780, 1781, 1782, 1783, 1784, 1785, 1786, 1787, 1788, 1789, 1790, 1791, 1792, 1793, 1794, 1795, 1796, 1797, 1798, 1799, 1800, 1801, 1802, 1803, 1804, 1805, 1806, 1807, 1808, 1809, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 209

COMMERCIAL 54	83	85
MC 20	87	88
NEW MODEL 48	73	85
CMC 1	89	88
SPECTRUM 2048	74	85

WALTONS LTD.
 General Contractors, Bridge Street
 Exeter, Devon, England

Spectrum Speedtest — [Hillview.com](http://Hillview.com/spectrum)
wrong time! The show program
let you save/load up 5000 load
Carnegie (0004), 21-01. Perry, Stuart
Systems, 100 DuPont Avenue,
Incorporate

the major cause of the problem is the lack of a security back up system of the program. Although there are some programs called BACKUP, Macintosh does not support them. The only good option would be some operation system that supports it.

ROBERT W. WOLFENBARGER
Dept. 100, Laurel House
Episcopal Lane, Williams
Green, Ohio 43032

TI-9514A Software
REV 001.038F

Glenn Plummer Designs and is master mason with various fine houses and custom design of stone cottages and

Also available	
Complete the Inquiry	12 pp.
Real Cases	12 pp.
Team Account	12 pp.
Team Interview	12 pp.

All programs in 2 needed BACC only
 Parents in
 8 JACOBSON
 17 Rowan Way
 New Rochelle, New York,
 North 902-6 1418

Colleges gather, discuss plans
for catalog and S.A.E. as
A. D. Software, 17 West Street,
Windsor, Ontario, publishes S&S

FOR GUARANTEED
QUALITY SOFTWARE
SEND \$3.00 FOR OUR
LIST AND SAMPLE
INSERTS.
HARLEQUIN
Computing Limited,
PO Box 44,
Edward M-2 TDV

Y. A. IZUMIYAMA (Ph.D. student)
GTM 44-2, Spectrum 111 83
Y. A. IZUMIYAMA (Lapsed)
Spectrum 111 83

1-800-368-2772, 1-800-368-2773, 1-800-368-2774
 1-800-368-2775, 1-800-368-2776, 1-800-368-2777

©2004 IBM. All rights reserved.
IBM and the IBM logo are trademarks of International Business Machines Corporation.
IBM and the IBM logo are registered trademarks of International Business Machines Corporation in the United States and other countries.

11.26.21 How have these emerging changes in personal mobility for

11100 Wilshire Blvd., Suite 1000
 Los Angeles, CA 90024
 Tel: (310) 471-1111
 Fax: (310) 471-1112
 E-mail: info@hugoboss.com

[illegible]

Year	Country	Population (millions)	Population (millions)	Population (millions)
1980	U.S.	225	225	225
1985	U.S.	235	235	235
1990	U.S.	245	245	245
1995	U.S.	255	255	255
2000	U.S.	265	265	265
2005	U.S.	275	275	275
2010	U.S.	285	285	285
2015	U.S.	295	295	295
2020	U.S.	305	305	305
2025	U.S.	315	315	315
2030	U.S.	325	325	325
2035	U.S.	335	335	335
2040	U.S.	345	345	345
2045	U.S.	355	355	355
2050	U.S.	365	365	365
2055	U.S.	375	375	375
2060	U.S.	385	385	385
2065	U.S.	395	395	395
2070	U.S.	405	405	405
2075	U.S.	415	415	415
2080	U.S.	425	425	425
2085	U.S.	435	435	435
2090	U.S.	445	445	445
2095	U.S.	455	455	455
2100	U.S.	465	465	465

APPROVED SOFTWARE lists a high catalogue of good quality programs for the Ti Series, with over 80 programs! And in copy, please send a large A4 in



400 W. BROAD ST., SUITE 200
 SAN ANTONIO, TEXAS 78205
 400 W. BROAD ST.
 SUITE 200
 SAN ANTONIO, TEXAS 78205
 TEL. 573-6644

[illegible]

**Practical Software
in Python 3: Practical, Language-
agnostic, Cross-Platform programs in**

IN A HURRY
5 Denver Drive
Edgemoor, Missouri
63020-1000

Manager: Software, TI 9514A,
 standard Software + Program
 source + Editor. All 4 programs
 on 100 5.25" 5 1/4" disk. One disk
 on 5 1/4" diskette. (100 5.25" 5 1/4")

Dr. Ching-Cheng Chang, director of the Institute of Statistics, National Tsing-Tung University, Hsinchu, Taiwan, is the author of the book.

11-00-14, S.A.E. Inc. and
 Adis Serv. Headquarters, Los
 Angeles, CA

Various tapes by Arctonix Inc. including: p40: Access 80 pack-
ing (400,000) Shop Data (440,000)
Access Abolition (440,000) Main-
frame (440,000) Spectrum (440,000)
Microchannel tapes: '0' to '9' to
memory CT 50, (ACE) 500 to 500
(ACE) 500 to 500 (ACE) 500 to 500
(ACE) 500 to 500 (ACE) 500 to 500
(ACE) 500 to 500 (ACE) 500 to 500
including computer peripherals -
Computer Mag. 90 (ACE) 500 to 500

**RESEARCH SOFTWARE
TO FORTUNE LEADS**
BOSTON ON NOVEMBER 17TH

Defend your macintosh from
these attacks. A game of cat and
mouse. **£17.95 - The piggy**

© M. K. Flanagan & Associates
101 Sharncliffe Road, Notts

[illegible][illegible]

It takes care of all the structure you need to get on with things on the website. Includes content, all the usual stuff you'd find on any web site.

Planning, Marketing, Sales, and
 Finance, 1998-1999
 Entrepreneurship and Small Business

© 1998 by The McGraw-Hill Companies, Inc.

RESEARCH – A computer program for the analysis of frequency data on 2x2 tables. It is available on the Internet at [http://www.psychology.mcgill.ca/psychology/research.html](http://www.psychology.mcgill.ca/psychology/psychology/research.html).

Latin studies: 71.20.00
 History: 71.20.00
 Art & Design: 71.20.00
 Education: 71.20.00
 Engineering: 71.20.00
 Health: 71.20.00
 Law: 71.20.00
 Life Sciences: 71.20.00
 Medicine: 71.20.00
 Physical Sciences: 71.20.00
 Social Sciences: 71.20.00
 Technology: 71.20.00
 Business: 71.20.00
 Economics: 71.20.00
 Politics: 71.20.00
 Geography: 71.20.00
 Environmental Studies: 71.20.00
 Interdisciplinary Studies: 71.20.00
 Other: 71.20.00

LEARN THE TRUTH ABOUT
THE CHANGING MARKET FOR
RENTAL HOMES
AND HOW TO TAKE ADVANTAGE OF IT
FOR YOUR FUTURE SUCCESS

3 more games for \$100.
J.R. Rasmussen

FLUORIDE (F) = corrosion
inhibitor for the metal parts

FREE SILICA = helps the blast make
a better fire for standing gold veins in the
lighter structure

HYDROPHOBIC FIBER =
waterproofing material. Used in the
blast and can be used for other purposes
like waterproofing and other materials like
hydrophobic and hydrophobic fibers.

A. GOSWAMI
The Mountford Road, Longton
London E10 6JG

[illegible]

平

Storage M to 150 lbs (2001 TMS and
 4000 Series). Moving diagrams and
 working instructions of plastic
 synthesis of rotation and deflection.
 Also contains plastic storage
 instructions.

After having already received a letter pre-announcing the arrival of the *Thalys* magazine, he and several of his friends had to wait for the magazine to be distributed to the public. It was not until 1948 that the magazine was finally published.

AlFA 2 (Gruppo Cinescopi)
Viale dell'Industria, 10 - 20139 Milano

Specialties in Structural software
Software and engineering. Software
products from ABC to W Steel Plate
Major publishing houses included in
most comprehensive engineering services
and a growing number of international
Engineering News-Record, see us at (212) 512-1000
for more information.

MARY E. STERN, M.D.
Chairman, Board of Directors
American Medical Association

Large R.A. E Car Unit
524 Bromsgrove Road
Bartford
Tel. Bartford 44703

Model	Year	Price	MPG
Model A	1998	\$15,000	24
Model B	1999	\$18,000	26
Model C	2000	\$20,000	28

© 1999 by The McGraw-Hill Companies, Inc.

A. J. ROBERTS
 Director, Research Services, University of
 Cambridge, Cambridge, England

Present: New Mirinda and Fun programs (Ogilvy & Mather) for 4-12 yrs. Small 12-16 oz. cups w/ E. P. Franklin, 113 College Avenue, Boston, Mass.

TEL: 494-7444, Fax: 494-7445, E-mail: info@chemed.org
 website: www.chemed.org and materials group
 S. A. E. T. Lovers, 40, March 11,
 Houston, TX 77001

All models brought to you by
Motorola Consumer Company
1000 Yorktowne Blvd., Suite 1000
Farmingdale, NY 11735-1000

We are seeking energetic, experienced Marketing and Sales managers. We want to offer you an extraordinary, motivating, and stimulating working environment. Please send us your resume and salary requirements to:

1. **Project Name:** [Project Name]
 2. **Project Number:** [Project Number]
 3. **Project Manager:** [Project Manager]
 4. **Project Sponsor:** [Project Sponsor]

If you order goods from Mail Order Advertisers in this magazine and pay by post in advance of delivery, this publication will consider you for compensation if the advertiser should become insolvent or bankrupt.

- 1 You have not received the goods or had your money returned; and
- 2 You write to the publisher of this publication explaining the postage not earlier than 28 days from the day you sent your order, and not later than 2 months from that date.

Please do not wait until the last moment to inform us. When you write, we will tell you how to make your claim and what evidence of payment is required.

We guarantee to remit claims from readers made in accordance with the above procedure as soon as possible after the advertiser has been declared bankrupt or moved to a limit of \$1,000 per annum for any one advertiser as allocated and up to \$5,000 as a maximum of all eligible advertisers. Claims may be paid for higher amounts or when the above procedures have not been complied with at the discretion of the publication, but we do not guarantee to do so or view of the need to set some limit to this commitment and to learn quickly of advertiser difficulties.

The guarantee covers only advance payment and in direct response to an advertisement in this magazine (not for example payments made in response to catalogues etc. reported as a result of answering such advertisements).

CLIPPING ADVERTISEMENTS ARE ENCOURAGED

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15

Printed upon the advice of *Business Computing Weekly*. For more information, please contact the publisher of *Business Computing Weekly*.

Advertise nationally for only 33p per word (weekend charge 13 words). Simply print your message in the coupon and send with your cheque or postal order made payable to Anna's Recipes Publications Ltd to:

CLASSIFIED DEPT., HOME COMPUTING WEEKLY,
1 Colindale Square, London W9 1AB
Tel: 01-431-9899



--	--	--



LIFT OFF with



SPACE SHUTTLE



SPECTRUM LAUNCH STAGE



DRAGON TEAM STAGE



BBC FINAL STAGE



ATARI FINAL STAGE

MISSION BRIEF

Successfully pilot the Shuttle through Launch, Fetch & Fix, Take off and position Shuttle in orbit. Manoeuvre alongside malfunctioning Satellite Retrievers—then re-enter to glide without fuel to White Sands Desert.

PREVIOUS SUCCESSFUL MISSIONS

EXCELLENT — "Personal Computer News"
A WELL THOUGHT OUT GAME — "Dragon User"
ALMOST WORTH BUYING A DRAGON FOR — "Micro Maps"



MISSION STATUS Available for
 68K DRIC I, ATARI 16K, DRAGON 32, BBC
 MODEL B, SPECTRUM 48K, COMMODORE 64,
 ADORN ELECTRON, TANDY COLOUR 32K,
 CASSETTE £5, DISK £10

Postal Order to
 40 Truro Road, St. Austell, Cornwall PL9 6AT
 Telephone/Credit Card Order
 Tel: 0728 3888



Available from computer centres
 nationwide or from Import Branches of



John Menzies

MICRODEAL